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THE TREATMENT OF TUMORS OF THE BLADDER, PAST AND PRESENT*

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I can well remember my first recollection of studying bladder tumors. It was early in the 1930's and I was reviewing a small series of cases which had been operated on 5 years or longer by various methods in vogue at that time. To my consternation, I found that none of the infiltrating cancers of the bladder had survived more than 24 months. Time has appreciably changed this picture. At the present time, a fair number of infiltrating cancers of the bladder can be given a fairly good prognosis if diagnosis and treatment has not been delayed too long. I believe this improvement in survival statistics is due, first, to a better understanding of all of the remifications of the disease and, second, of course, to better surgical therapy.

As long as 5 years ago I predicted that segmental resection and simple cystectomy might fall into the discard as methods of treating cancer of the bladder. Jewett,[1] in 1956, seems to have arrived at very nearly this same conclusion. Our follow-up of radical surgery as presented in 1954[2] seems also to bear out these conclusions.

We stage tumors according to Marshall's modification of Jewett's original classification[3] (Fig. 1):

Stage O, confined to mucosa. Stage A, not below the submucosa. Stage B_1, not deeper than the superficial half of the muscularis. Stage B_2, involving all of the muscularis. Stage C, extension to the perivesical fat. Stage D_1, local metastases. Stage D_2, distant metastases.

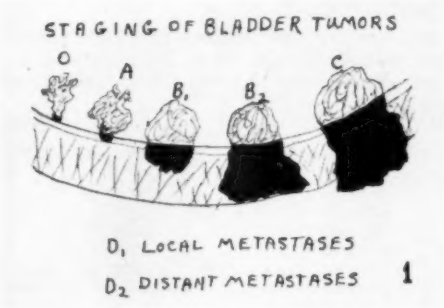

Fig. 1. Schematic drawing showing staging of tumors by depth of extension (see text).

Accurate staging and grading of tumors both clinically and histologically is possible by our present methods.

Bimanual examinations under anesthesia are always carried out and great care is exercised in selecting the proper pieces of tissue for study. They must be pieces taken from deep in the bladder wall and will invariably show bladder muscle. These special pieces are pinned with an ordinary pin so that they may be mounted in the paraffin block in such a way that perpendicular sections may be made through the tumor (Fig. 2). Figure 3 shows a microscopic section of a typical biopsy showing tumor invading the muscularis. I have conclusively proved that adequate and accurate biopsies can be made transurethrally.[4]

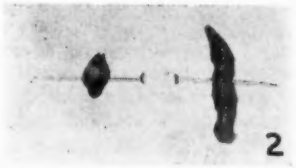

Fig. 2. Method of marking tissue to ensure sections cut in proper plane.

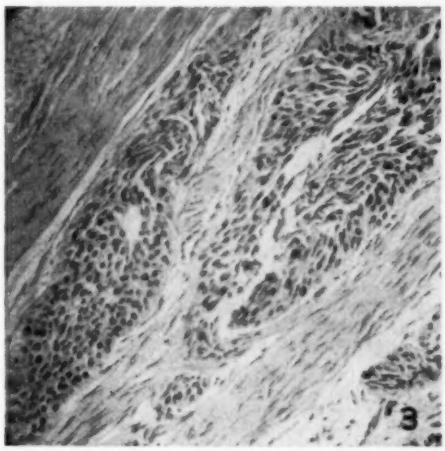

Fig. 3. Microscopic section of biopsy showing infiltration of muscle wall with bladder tumor.

We grade tumors according to the method used by the Army Institute of Pathology, namely, grades I, II, III and IV. Grade I is not malignant except as it has a tendency to recur. It is very interesting to note that at present the operator and the pathologist are over 90% accurate in their staging and grading of tumor, although it is done individually in

* Paper read by Dr. Milner at 2nd Congress of Urological Association of South Africa (M.A.S.A.), Cape Town, July 1958.

each case without reference to each other until the decision has been made. This would seem to indicate that our methods, clinical on one hand and microscopic on the other, must be fairly accurate. I feel equally certain that only by accurate staging and grading of tumors can one predict what the patient's clinical course is going to be.

I feel that transurethral surgery is the treatment of choice for most bladder tumors. The tumors which have not gone beyond the bladder wall can usually be adequately controlled by this method, and those which have gone further do not respond well to more radical types of surgery, namely, simple cystectomy or segmental resection. No pre-operative medication is employed and a spinal anesthesia is used in almost every case. Pontocaine in glucose is the one used most commonly, 10 mg. of Pontocaine in 10% glucose solution.

The technique of operation consists of removing all of the tumor if possible. Muscle layer is readily recognized by its fibrous appearance. If the tumor extends more deeply than it is possible to resect, then radon seeds are implanted at 1 cm. intervals after careful mapping. Obviously stage O, A and B_1 tumors can be resected cleanly. Interstitial radiation can be carried out more accurately in the distended bladder cystoscopically than in the bladder which is open. Care must be exercised after radiation to keep the bladder distended with 1 oz. of water at all times until the catheter is removed. This prevents the painful bladder associated with radiation in a collapsed bladder where the good side of the bladder has been in contact with the radiated area. In our clinic, we rarely see a painful bladder following interstitial radiation.

ANALYSIS OF CASES

In this paper I shall present, largely for comparison, cases treated by all methods. This report is based upon 679 cases of bladder tumors all operated upon more than 5 years ago (Table I). 627 cases, or 92·4%, have been accurately

TABLE I. CASES OF BLADDER TUMORS REVIEWED

Alive	
Resection	86
Resection and Radon	10
Segmental Resection	2
Cystectomy	3
Papillomas, Resection	75
Dead	
Resection	224
Deep Therapy	6
Papillomas, Resection	56
Resection and Radon	107
Cystectomy	34
Suprapubic Fulguration	33
No Therapy	9
Cystoscopic Fulguration	8
Hemicystectomy	26
Total	679

52 cases (7·6%) not followed
627 cases (92·4%) followed

followed-up to the reporting period and 52 cases, or 7·6%, have not had complete follow-ups, though many of these have been followed for 2 or more years.

131 cases, or 19·2%, were grade-I carcinoma or papillomas. 548 cases or 80·8% were cancers. In the early 1930s suprapubic cystotomy and fulguration of the tumor was a common form of therapy. I do not believe any tumor measuring more than 0·5 cm. should be fulgurated. They should be resected cleanly.

Segmental resections and uretero-sigmoidal anastomosis with or without cystectomy are still being done where it is impossible to offer the patient any chance with conservative methods.

The morbidity of conservative surgery is low. The average patient who has resection with or without radon seed implantation stays in the hospital about 4 or 5 days. Segmental resections require about 14 days' hospitalization and cystectomies and transplants take about 3 weeks.

Operative mortality is lower in resection than in open surgery (Table II). The operative mortality in cystotomy and fulguration was 21%. This was years ago, of course,

TABLE II. OPERATIVE MORTALITY RATE

Procedure	*Number of Cases*	*Number of Deaths*	*Per cent*
Cystotomy and fulguration	33	7	21·2
Segmental resection	28	1	3·5
Uretero-intestinal anastomosis and cystectomy	37	7	18·9
Operative mortality for open surgery, 15·3%.			
Transurethral resection	441	2	·4
Transurethral resection and radon	117	1	·8
Cystoscopic fulguration	8	None	None
Operative mortality for conservative surgery, 0·5%.			

and probably not a fair figure in comparison with present-day statistics.

Segmental resection showed a 3·5% mortality and uretero-intestinal anastomosis and total cystectomy showed an operative mortality of 19%. Transurethral resection had an operative mortality of 0·4% and with radon seed implantantion only 0·8. Cystoscopic fulguration showed no mortality but the number of cases was statistically insignificant.

The age incidence of these cases was rather interesting. Four cases were less than 30 years of age. The majority of the cases fell in the decades from 50 to 80 (Table III). There were

TABLE III. AGE INCIDENCE . 679 CASES OF BLADDER TUMOR

Age in Years	*Number of Cases*
20 to 30	4
30 to 40	8
40 to 50	52
50 to 60	165
60 to 70	249
70 to 80	139
80 and over	39
No age given	23

TABLE IV. SEX INCIDENCE. 679 CASES OF BLADDER TUMOR TREATED BY ALL METHODS

Type of Treatment	*Males*	*Females*
Not operated on	4	2
Cystoscopic fulguration	4	4
Transurethral resection	327	114
Transurethral resection and radon seed implantation	78	39
Cystotomy and fulguration	30	3
Cystectomy and transplantation of ureters	28	9
Segmental resection	10	18
Total	481	189

Sex not stated—9.

39 cases over 80 years of age. Nine cases were not operated upon; they either refused operation or were moribund on admission. 481 of the cases were males and 189 females; in 9 the sex was not recorded (Table IV).

Deep therapy was employed in 6 cases. Of these, 4 died within the first year. One survived 5 years and died without bladder disease but this was a case of multiple papillomatosis treated to reduce the frequency of recurrences. In most of these cases transurethral biopsies were performed, but they were old cases and none were graded or staged.

Most of the cases treated by cystotomy and fulguration

TABLE V. 33 CASES TREATED BY CYSTOTOMY AND FULGURATION

Years	Alive		Dead		Not followed	
	Without Tumor	With Tumor	Without Tumor	With Tumor	Without Tumor	With Tumor
1	...	...	...	25	...	...
2	...	...	...	1	...	...
3	...	...	...	1	...	...
8	...	...	1	1	...	...
9	...	...	...	1	...	...
12	...	...	1	...	...	...
17	...	...	1	...	...	...
27	1	...	...	...	...	...
Total ..	1	...	3	29	...	...

Depth of extension classification—B_1,2; B_2,3; C,2;D_1, 3; D_2,1; not classified, 21.
Grade—II,1; III,2; IV,1; not graded, 28.

(Table V) died of their tumors in the first year. Hence my pessimistic attitude concerning this type of therapy.

Of the 31 cases (Table VI) treated by segmental resection

TABLE VI. 31 CASES OF INFILTRATING CANCER TREATED BY SEGMENTAL RESECTION

Years	Alive		Dead		Not followed	
	Without Tumor	With Tumor	Without Tumor	With Tumor	Without Tumor	With Tumor
1	...	...	...	8	...	2
2	...	...	...	2	...	...
3	...	...	...	3	...	...
4	...	...	...	2	...	...
5	...	...	...	1*	...	...
6	...	...	...	3	...	...
10	...	...	2	...	...	...
11	...	...	...	1*	...	...
13	...	...	1	...	...	...
14	...	...	1	...	...	...
16	...	...	...	1*	...	...
17	1†	...	...	...	...	...
Total ..	1	...	4	21	...	2

*Multiple recurrences.
† Cured by resection, no tumor found at resection.
Operative mortality 1.
Depth of extension classification—A,2; B_1,12; B_2,11; C,1; D_1,2; D_2,2.
Grade—II,4; III,15; IV,8; not graded, 1.

(all infiltrating cancers, of high grade for the most part) 5, or 16·1%, have apparently been cured. One of these, however, was cured by resection (no tumor was found by serial sections in the bladder removed). 83·9% of these patients have died of their disease although 6 of this group survived 5 years or longer, the 5-year survival being roughly 35%.

Uretero-sigmoidal anastomosis and cystectomy was used in 37 cases of this group (Table VII). These cases were

TABLE VII. 37 CASES TREATED BY CYSTECTOMY WITH OR WITHOUT TRANSPLANTATION OF URETERS

Years	Alive		Dead		Not followed	
	Without Tumor	With Tumor	Without Tumor	With Tumor	Without Tumor	With Tumor
1	...	...	1	22	...	...
2	...	...	...	6	...	...
3	...	...	...	1	...	...
4	...	...	1	1	...	...
5	...	...	...	1*	...	...
6	...	...	...	...	...	...
7	...	...	...	...	...	...
8	1	...	...	...	...	...
10	...	...	1	...	...	...
11	1	...	...	...	...	...
13	1	...	...	...	...	...
Total ..	3	...	3	31	...	...

* Treated 9 years for carcinoma of bladder.
Operative mortality 7 cases.
Depth of extension classification—B_1,7; B_2,14; C,8; D_1,8.
Grade—II,2; III,20; IV,14; not graded, 1.

all bad tumors in which nothing else could be offered and this undoubtedly colors the statistics. Only 6 cases have apparently had their disease eradicated, a percentage of 16·2. Only 5 patients, or 13·5%, survived 5 years or longer. Of the 37 patients 31 died of their disease.

Transurethral resection with or without radon-seed implantation was used in 558 cases. Of this group, 131 cases

TABLE VIII. 131 CASES PAPILLOMAS OF BLADDER TREATED BY TRANSURETHRAL RESECTION ALONE

Years	Alive		Dead		Not followed	
	Without Tumor	With Tumor	Without Tumor	With Tumor	Without Tumor	With Tumor
1	...	...	12	3	10	...
2	...	...	10	...	4	...
3	...	...	2	...	...	...
4	...	...	4	...	1	...
5	5	...	9	...	1	...
6	12	...	2	...	2	...
7	4	...	6	...	1	...
8	3	...	2	...	...	...
9	1	...	2	...	...	...
10	3	...	1	...	4	...
11	5	...	...	...	3	...
12	6	...	3	...	...	...
13	2	...	...	...	...	...
14	1	...	...	...	...	...
15	4	...	...	...	...	...
16	2	...	...	...	...	...
18	1	...	...	...	...	...
Total ..	49	...	53	3	26	...

Depth of extension classification—O,81; A,50. Grade—I,131.

were papillomas (Table VIII) and will not be discussed further except to say that the poorest follow-up was in this group, which would indicate the necessity of telling these people the nature of their disease. The 5-year survival rate is 64% in this group and the probable cure rate approximately 100%, and the only problem is that of recurrence in new areas. Deep X-ray has proved effective in controlling recurrences where they are too frequent and multiple in character.

310 cases of cancer of the bladder were treated by transurethral resection alone (Table IX). This group included not only cases which were thought to be curable by this method but

TABLE IX. 310 CASES OF CANCER OF THE BLADDER TREATED BY TRANSURETHRAL RESECTION ALONE

Years	Alive		Dead		Not followed	
	Without Tumor	*With Tumor*	*Without Tumor*	*With Tumor*	*Without Tumor*	*With Tumor*
1	...	...	8	112	1	4
2	...	...	6	16	5	...
3	...	...	6	6	2	...
4	...	...	8	6	1	...
5	3	...	8	3*	...	...
6	7	...	8	1*	1	...
7	8	...	7	...	4	...
8	5	...	3	1	3	...
9	7	...	4	1	...	...
10	12	1	2	2	1	...
11	5	...	3	...	...	...
12	2	...	3	2	...	...
13	3	...	2	1	1	...
14	2	1	3	...	...	...
15	1	...	...	...	...	...
16	3	...	1	...	...	...
17	...	...	...	...	...	...
18	1	...	...	...	...	...
19	...	...	...	...	...	...
20	1	...	...	...	...	...
21	1	...	...	...	...	...
22	...	...	1	...	...	...
Total ..	61	2	73	151	19	4

* 2 cases died of metastases with normal bladders.

Depth of extension classification—O,6; A_1,93; B_1,102; B_2,72; C,9; D_1,24; D_2,2; not staged, 2.

Grade—II,161; III,114; IV,27; not graded, 8.

also some which were treated largely for palliation without hope of cure at the time of operation. Of this group, 154 cases, or roughly 50%, would seem to have had their disease eradicated. 128 cases, or 41·2% survived 5 years or longer. It will be noted that 209 of these tumors were B_1 or greater and almost half of them were Grade III or greater.

117 cases (Table X) were treated by transurethral resection and radon-seed implantation. These were cases which involved the muscularis with only one exception, that of a Stage A. Most of these tumors were of high-grade malignancy. These are the tumors in which the expected salvage rate is poor at the time the patient first visits the office. 26 cases or 22·2% have survived 5 years or longer. According to Marshall's statistics, 47 of these patients probably had metastases when first seen.

TABLE X. 117 CASES OF INFILTRATING CANCER TREATED BY TRANSURETHRAL RESECTION AND RADON SEED IMPLANTATION

Years	Alive		Dead		Not followed	
	Without Tumor	*With Tumor*	*Without Tumor*	*With Tumor*	*Without Tumor*	*With Tumor*
1	...	...	...	55	...	1
2	...	...	1	10	...	...
3	...	...	3	13*	...	...
4	...	...	2	6†	...	...
5	1	...	1	7‡	...	...
6	1	...	...	1	...	...
7	...	...	2	1¶	...	...
8	...	...	1	1	...	...
9	1	...	1	...	...	...
10	...	1	...	...	...	...
11	...	...	1	1	...	...
13	1	...	...	...	1	...
14	1	...	...	...	...	...
16	1	...	...	...	...	...
21	...	1	...	...	...	...
Total ..	6	2	12	95	1	1

* 1 case malignant melanoma. † 1 case metastases but negative bladder.

‡ 1 case cystectomy after 5 years. ¶ 1 case spindle-cell carcinoma following radon.

Depth of extension classification—A,1;B_1,41; B_2,51; C,9; D_1,10; D_2,2; not staged, 3.

Grade—II,24; III,60; IV,17; not graded, 16.

Table XI shows a previous study of 280 cases of bladder cancer treated by conservative methods. This chart showing the percentage of possible eradication of disease would indicate that transurethral surgery more closely approximates the possible cure rate as set up by Jewett when he first discussed the staging of bladder cancer.

TABLE XI. SURVIVAL RATE IN CONSERVATIVF SURGERY ON 280 CASES GRADED AS TO DEPTH OF EXTENSION

Years	A		B_1		B_2		C		D_1		D_2	
	O	*X*	*O*	*X*	*O*	*X*	*O*	*X*	*O*	*X*	*O*	*X*
1	5	4	10	18	5	50	...	10	...	28	...	1
2	4	...	3	5	2	9	...	3	...	2	...	...
3	2	...	5	4	...	2	...	...	...	...	...	...
4	3	4	4	2	...	3	...	...	...	...	...	...
5	1	...	1	3	...	1	...	...	...	1	...	1
6	7	...	8	1	3	...	...	...	...	...	...	...
7	4	...	12	2	3	...	...	...	...	...	...	...
8	4	8	3	...	1	...	...	...	...	...	...	...
9	1	1	1	1	1	...	...	...	...	...	...	...
10	4	...	1	...	3	...	...	...	...	1	...	...
11	...	...	1	...	...	1	...	...	...	...	...	...
12	2	...	2	...	1	...	...	...	...	...	...	...
13	1	...	...	1	...	...	...	...	...	...	...	...
14	...	...	...	...	1	...	...	...	...	...	...	...
15	...	...	...	1	...	...	...	...	...	...	...	...
16	2	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	1	...	...	...	...	...
Total ..	40	17	51	38	20	66	1	13	...	32	...	2
Possible eradication of disease	70%		57·3%		23·2%		7·1%					

X—With Tumor. O—Without Tumor.

All cases classified as to extension.

Operative mortality nil.

All cases treated by transurethral resection with or without radon seed implantation.

SUMMARY AND CONCLUSIONS

1. 679 cases of bladder tumors have been studied and analyzed. These cases are all 5 years or more post-operative.

2. Great difficulty was encountered in obtaining a 92·4% accurate follow-up. It would seem that a more accurate follow-up is possible if the patient is truly appraised of his condition.

3. A careful study of the foregoing statistics would strongly suggest that transurethral resection with or without radon-seed implantation offers a better chance of 5-year survival than other more radical types of surgery in tumors which have not penetrated the bladder wall.

4. Stage C and D tumors should be treated by the method which will give the patient his greatest palliation.

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Suid-Afrikaanse Tydskrif vir Geneeskunde : South African Medical Journal

VAN DIE REDAKSIE : EDITORIAL

UROLOGIESE BYDRAES

In hierdie uitgawe van die *Tydskrif* publiseer ons sommige van die urologiese bydraes wat gelewer is by geleentheid van die Tweede Kongres van die Urologiese Vereniging van Suid-Afrika gehou in Kaapstad gedurende Julie 1958. Die Kongres was suksesvol en is goed bygewoon deur uroloë sowel as deur besoekers uit ander Groepe. Ook het ons die voorreg gehad om 'n paar Amerikaanse kollegas by ons te hê. Ons besoekers uit Amerika het veral daartoe bygedra om belangstelling te wek vir die program van die Kongres wat 'n groot omvang van onderwerpe ingesluit het. Alhoewel die Kongres in die eerste plek 'n urologiese kongres was, was dit die beleid van die organiseerders om onderwerpe te kies en sprekers te nooi wat belangstelling sou wek by lede van verskeie ander Groepe—spesialiste sowel as algemene praktisyns.

Die tema wat op die eerste dag behandel is, in die vorm van 'n ope sitting, was gewasse van die blaas. Waardevolle bydraes tot hierdie betwisbare onderwerp is gelewer. Die vergadering was baie gelukkig om dr. Wm. A. Milner van Albany, V.S.A., hier te kon hê. Hy het 'n baie goedgedokumenteerde oorsig gegee van sy uitgebreide ervaring by die behandeling van hierdie dodelike siekte deur middel van betreklik konserwatiewe metodes van transuretrale reseksie en inplanting van radonmiddels.

Sedert die afgelope oorlog het die Mediese Vereniging gereelde tweejaarlikse algemene kongresse gehou en dit het die spesialistegroepe 'n goeie geleentheid gegee om onafhanklike byeenkomste van hul eie Groepe in die jare daartussen te reël. Die eerste byeenkoms van die urologiese Vereniging is in 1956 in Port Elizabeth gehou en die tweede in Kaapstad in Julie 1958. Die volgende byeenkoms sal waarskynlik in 1960 in Johannesburg plaasvind en die verwagting is dat 'n hele aantal oorsese kollegas weer oorreed sal kan word om die byeenkoms by te woon.

As ons dit in gedagte hou dat spesialis-uroloë eintlik net in groot stede kan werk, waar hospitale is wat ten volle uitgerus is met moderne snykundige apparaat, het Suid-Afrika 'n betreklike groot aantal mense wat hulle werk beperk tot die genitaal-urinêre stelsel. Die teenwoordige lidmaatskap van die Groep beloop byna 40 lede insluitende 3 geaffilieerde lede van Rhodesië. Dit is eintlik maar 'n klein gemeenskappie in vergelyking met Europese en Amerikaanse standaarde en die Urologiese Groep van Suid-Afrika sou miskien as ambisieus bestempel kon word omdat hulle besoekers van oorsee uitnooi om urologiese kongresse in hierdie land by te woon. Die toenemende stroom medici wat Suid-Afrika gedurende die afgelope jare besoek het, laat 'n mens egter tot die gevolgtrekking kom dat ons land 'n besondere aantrekkingskrag het vir ons besoekers.

Die Amerikaanse besoekers by die Kongres in Kaapstad het die gasvryheid wat hulle hier geniet het hoog op prys gestel en hulle was veral geesdriftig oor die peil wat gehandhaaf is by die besprekings. Ons het alle rede om te dink dat die voorgestelde Kongres in 1960 betreklik goed bygewoon sal word deur oorsese uroloë en dat dit moontlik die begin sou kon wees van gesamentlike kongresse wat meer dikwels gehou kan word soos dit die geval is met kongresse gereël deur die Britse Vereniging van Uroloë en die Kanadese Urologiese Vereniging.

Chirurge dwarsoor die wêreld het te staan gekom voor vermeerderde werkgeleenthede wat moontlik gemaak word deur moderne vooruitgang—en die urologiese chirurg is hier geen uitsondering nie. Sy gebied is ook steeds aan die uitbrei en hy moet op hoogte bly van sulke probleme soos endokrinologie, elektrolitiese chemie, kongenitale anomalieë en geriatrie. Die probleem van hoe om op hoogte te bly met die moderne ontwikkeling kan op baie maniere opgelos word, byvoorbeeld deur te lees, deur navorsingswerk te doen, deur te reis en deur middel van omgang met kollegas op kongresse. Daar is baie probleme verbonde aan navorsingswerk in Suid-Afrika—veral probleme van ekonomiese aard. Oorsese reise is luukse wat min mense kan bekostig. Dié gaping word vir die meeste mediese praktisyns deur leeswerk gevul en tog is leeswerk alleen nie genoeg nie. Ons het altyd die behoefte aan die prikkeling van gedagtewisseling wat veral op kongresse moontlik is.

Die uroloë moet met hulle ondernemings van die verlede gelukgewens word en dit sal 'n werklike prestasie wees as die Kongres van 1960 tot gesamentlike urologiese kongresse binne die Gemenebes sou kon lei.

UROLOGICAL CONTRIBUTIONS

In this issue of the *Journal* are published some of the papers which were presented at the Second Congress of the Urological Society of South Africa held in Cape Town during July 1958. This was a well-attended and successful Congress of urological surgeons, enhanced by the presence of visitors from other Groups, and graced by a sprinkling of American colleagues. In particular, our visitors from America added interest to the full and varied programme which covered a wide range of subjects. It was the policy of the organizers to choose such subjects and invite such speakers that the field covered, although mainly urological, was wide enough to attract both specialist and general members of several other Groups.

The first day of the Congress took the form of a plenary session devoted to the discussion of bladder tumours, and valuable contributions to this controversial subject were read. The meeting was indeed fortunate to have attracted Dr. Wm. A. Milner of Albany, USA, who produced a carefully documented review of his vast experience in dealing with this deadly disease, by the relatively conservative

means of transurethral-resection and the implantation of radon seed.

Since the last war the Medical Association of South Africa has held a general congress at two-yearly intervals, and this has given the specialist Groups an excellent opportunity of arranging independent meetings of their own Groups in the intervening years. The first meeting of the Urological Society was held in Port Elizabeth in 1956, and the second in Cape Town last July. The next meeting will probably take place in Johannesburg in 1960, and it is hoped that a fair number of overseas colleagues will be induced to attend.

If we bear in mind the fact that specialist urologists can only function in large cities which have hospitals fully equipped with modern surgical amenities, then South Africa has a fair quota of practitioners who confine their skill to the genito-urinary tract. The present membership of the Group numbers nearly two score, and this includes three affiliated members from Rhodesia. This is a small community by European and American standards, and the Urological Society of South Africa may be regarded as somewhat ambitious in asking overseas visitors to attend urological congresses in this country. However, the increasing stream of medical men who have visited South Africa in recent years shows that our country does hold some attraction for visitors.

The American visitors to the Congress in Cape Town were enthusiastic about the standard of the papers and the discussions and thoroughly appreciated the hospitality extended to them. There is good reason to believe that the proposed Congress in 1960 will be reasonably well attended by urological surgeons from abroad, and it may be the beginning of more frequent joint congresses, such as have been held by the British Association of Urological Surgeons and the Canadian Urological Society.

Surgeons all over the world are realizing that the scope of their work is constantly widening. The urological surgeon is no exception. His field, too. is steadily widening and he has to keep abreast of such advances as have been made in endocrinology, electrolyte chemistry, congenital anomalies, and geriatrics.

The problem of keeping in touch with modern advances can be solved in various ways: by reading, by research work, by travel, and by communication with colleagues at congresses. Research work in South Africa presents many difficulties, of which the economic problem is probably the most important. Overseas travel is a luxury that many cannot afford. Reading fills this need for most medical men, and yet, reading alone is not enough. The stimulus gained from the exchange of views is essential and this becomes especially possible at congresses.

The urologists are to be congratulated on their past efforts and it will be a real achievement if the 1960 Congress opens the way to future joint urological congresses within the Commonwealth.

THE LATE COMPLICATIONS OF URINARY TUBERCULOSIS*

S. SCHER, M.B., B.S., F.R.C.S., *Cape Town*

These complications, which are usually found in patients who have already had one kidney removed for tuberculosis, develop as a result of persistent active infection with its attendant pathology, viz. the destructive processes of caseation and ulceration leading to fistula formation, and the attempt at repair by granulation tissue and fibrosis leading to contraction and deformity. These changes usually develop very gradually and take years to establish themselves. Fistula formation is very rare except as a result of operative interference. Fibrotic contraction and deformity are common and occur in every chronic case in due course, although there is evidence that this process is more marked in some patients than in others. Ultimately the disease may become quiescent and appear to have burnt itself out. Unfortunately, by this time the urinary tract has often been converted to a deformed wreck of its former self, with more or less destruction of renal tissue.

Typical examples of these changes are illustrated by cases 1 and 2. In case 1, R.H. (Figs. 1, 2 and 3) the right kidney was removed for tuberculosis in 1945, and 5 years later infection started in the left kidney. He had intermittent specific therapy. At his last check-up a few months ago he was symptomatically free and the urine negative on microscopy. The deformity, which involves the pelvis and calyces, mainly took 8 years to develop.

An abortive attempt may be made by nature to cure the disease by auto-nephrectomy, in which the ureter becomes occluded and the caseous pyonephrosis above is partly calcified. Usually live tubercule bacilli are present and may break into activity at any time, with the development of further complications such as a perinephric abscess. This is illustrated by case 2, J.R. (Fig. 4). At nephrectomy the ureter was found to be converted into a thin fibrous cord without a lumen.

The ureter may be extensively involved in one of the two following ways:

(*a*) As a result of active disease in the ureter itself which produces irregular fibrotic contraction and dilation. The ureter is typically shortened and fixed to surrounding structures, with 'tenting' of the bladder on the same side.

(*b*) As a result of, and secondary to, extensive involvement of the bladder. The bladder undergoes fibrotic contraction and deformity, associated with widely patent and fixed 'golf-hole' orifices, up which reflux takes place. This leads to marked dilation of the upper urinary tract with elongation of the ureter, which becomes a thin-walled tortuous tube with the folds lightly bound together by adhesions. In severe cases the bladder may ultimately become converted into a small, deformed and partitioned, so-called 'thimble' bladder, with the walls largely replaced by fibrous tissue.

The following two cases illustrate these changes, viz. case 3, M.B. (Fig. 5) who had a right nephrectomy for renal tuberculosis 17 years ago, and case 4, K.V. (Figs. 6 and 7), who had a right nephrectomy for renal tuberculosis 8 years before the last X-ray. Fig. 7 is an example of a 'thimble'

* Paper presented at 2nd Congress of Urological Association of South Africa (M.A.S.A.), Cape Town, July 1958.

bladder with the tuberculous process probably burnt out. She had a very bad stricture of her urethra. All attempts at instrumentation failed and a filiform made a false passage

Fig. 1. Case 1, R.H. 18 September 1945. Left retrograde pyelogram, taken at time of right nephrectomy. *Fig.* 2. Case 1, R.H., 10 August 1953. I.V.P., showing involvement of upper calyx. *Fig.* 3. Case 1, R.H., 1 May 1958. I.V.P., showing obliteration of upper calyx or its complete obstruction, and dilation of lower calyces due to stricture at ureteropelvic junction.

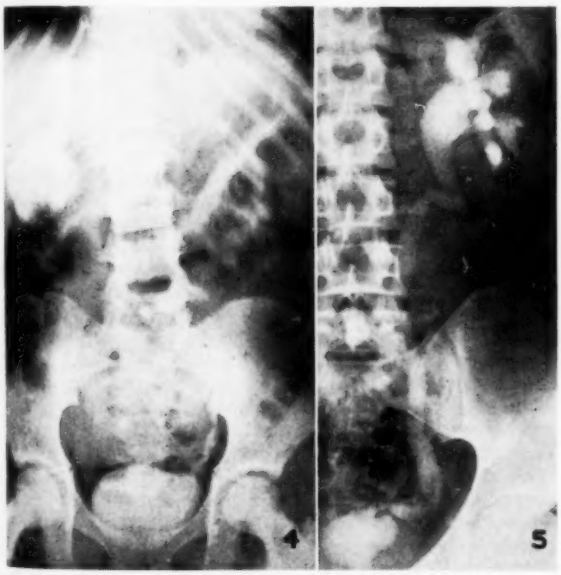

Fig. 4. (touched up). Case 2, J.R. Partially calcified right caseous pyonephrosis. *Fig.* 5. Case 3. M.B. I.V.P., showing dilated upper renal tract and small contracted bladder.

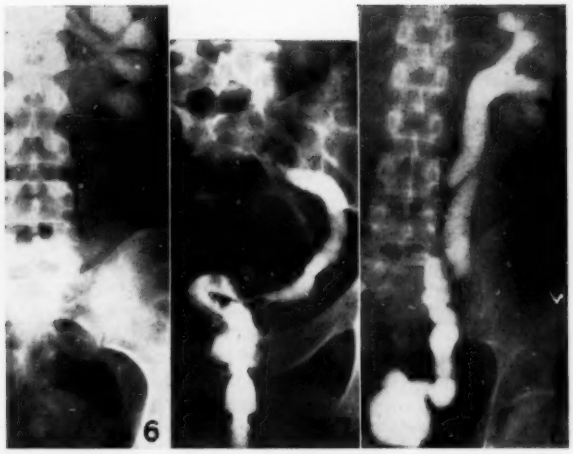

Fig. 6. Case 4, K.V. 7 April 1949. I.V.P. *Fig.* 7. Case 4, K.V. 6 June 1952. Retrograde urethrogram, showing extravasation of dye into vagina, thimble bladder and reflux up ureter. *Fig.* 8. Case 5, F.J.S.K. Cystogram showing reflux up renal tract.

into her vagina. The urethrogram shows the extravasation of dye through the fistula. The dilated tortuous ureters shown in Figs. 5 and 7 may be produced by a stricture at their lower ends but, as Pyrah and Raper[1] state, they are more commonly due to dilation of the lower ureter, with reflux. These authors' explanation of the pathogenesis of this process is that the persistent high intravesical pressure forces open the ureteric orifices and thus leads to reflux.

The question must be asked here why most cases after unilateral nephrectomy for tuberculosis should heal completely while some fail to do so. This failure will manifest itself mainly in the bladder, with gradually increasing contracture leading ultimately to dilation of the remaining renal tract, as illustrated. One problem to decide is in what part of the renal tract this persistent focus resides which prevents complete recovery. The original primary focus of infection in the urinary tract, as we know, is almost invariably in the kidney, very rarely in the bladder, and to my knowledge never in the ureter. It stands to reason, therefore, that the persistent focus which underlies the above changes will usually be in the kidney, occasionally in the bladder, and very rarely in the stump of ureter left after nephrectomy. This, of course, has a bearing on whether the routine operative treatment of renal tuberculosis should be by nephrectomy or nephro-ureterectomy. It is my opinion that after nephrectomy for tuberculosis the stump of the ureter left behind, although extensively involved, will in due course usually heal and be converted into a thin-walled normal-looking ureter, although fibrosed.

It is interesting to compare this late result of tuberculosis of the bladder with that found in the late stages of bilharziasis in Egypt as described by Sayegh and Dimmette.[2] These authors state that the calcification of ova and associated ulceration with fibrosis lead to contraction of the bladder in a short period of time. Associated with this is an enlargement of the trigone with dilation of the posterior urethra and also of the ureters and renal pelves. Here also the rise in intravesical pressure is thought to force open the posterior urethra

and also the ureteric orifices, with resultant dilation of the upper renal tracts. The ureteric orifices themselves may be dilated. This description is in sharp contrast to the usual bilharzial changes seen in the Cape, which lead to narrowing of the ureteric orifices and stricture formation in the lower third of the ureter.

The prostate may be involved by haematogenous or secondary spread from the upper renal tract. In the advanced condition there may be extensive destruction and fibrosis associated with a dilated posterior urethra and prostatic ducts and contraction of the bladder neck. Veenema and Lattimer[3] state that the tuberculous process may be so destructive as to produce a cavity below the trigone, described as a *voorblase*. There is often associated calcification and rarely fistula formation to the rectum or skin. Pyrah and Raper[1] describe marked dilation of the prostatic urethra and ducts secondary to the small contracted bladder and produced by the dilating action. This must be very rare. The involvement of the *anterior urethra* is rare and usually a late complication of renal tuberculosis. It commonly leads to severe and extensive stricture formation.

Secondary infection must be regarded as a late complication and even modern antibiotics may fail to eliminate it. It is commoner in cases with dilated upper urinary tracts which become distended during the act of micturition and thus maintain a residual urine. It is noteworthy how the infecting organisms seldom remain constant and tend to change from time to time. They may lead to recurrent attacks of pyelonephritis or to secondary pyonephrosis with severe toxaemia, necessitating nephrectomy where the other kidney is adequate. In case 5, F.J.S.K. (Fig. 8), secondary infection which developed after repeated cystograms could not be eradicated. The urine became alkaline and on repeated occasions soft phosphatic calculi were removed from the bladder *via* the cystoscope.

Medical Treatment

Specific therapy, although of great value, may lead to the rapid development of changes resembling the late complications which normally take years to develop. This has never been seen to happen in early cases and fortunately only in a minority of the chronic cases. Jacobs[4] refers to this increased cicatrization associated with the use of streptomycin. The illustrations of the following 3 cases showing these changes have been reproduced from an article of mine in the *British Journal of Urology*.[5] In case 6, Mrs. E.A.B. (Figs. 9, 10 and 11), approximately 6 months after treatment with streptomycin and PAS, marked dilation of the upper renal tract developed with associated reflux up the ureter. A stricture was excluded by the passage of a large catheter up the ureter. In case 7, Miss V. M. (Figs. 12, 13 and 14) within $3\frac{1}{2}$ months after therapy with streptomycin and PAS, marked dilation of the upper urinary tract occurred, associated with reflux and further contraction of the bladder. Here also stricture of the ureter was excluded by the passage of bulbs. Both these cases had already undergone a nephrectomy for renal tuberculosis. In case 8, Mrs. M.T., (Figs. 15, 16 and 17) after 6 months' therapy with streptomycin and PAS marked contraction of the bladder took place, without reflux or dilation of the ureter. Instead there was an exacerbation of a previous stricture of the ureter, leading to marked renal deterioration and uraemia. This case suggests that whether, on the one hand, reflux and dilation or, on the other hand, stricture formation develops, depends on the resultant of two opposing forces, viz. (1) the dilating action of the spastic bladder, and (2) the degree and strength of the fibrotic contracture of the ureter. Thus if we compare the pyelograms in case 1 (Fig. 1) with those in cases 3 and 5 (Figs. 5 and 8), we may speculate that the reason why no stricture formation took place in the latter two cases is the dilating action by the reflux of urine produced by the spastic bladder. The reason for the rapid development of the above complications is put down to the increased destruction of tubercle bacilli and liberation of toxin leading in the first place to exacerbation of the inflammatory process and

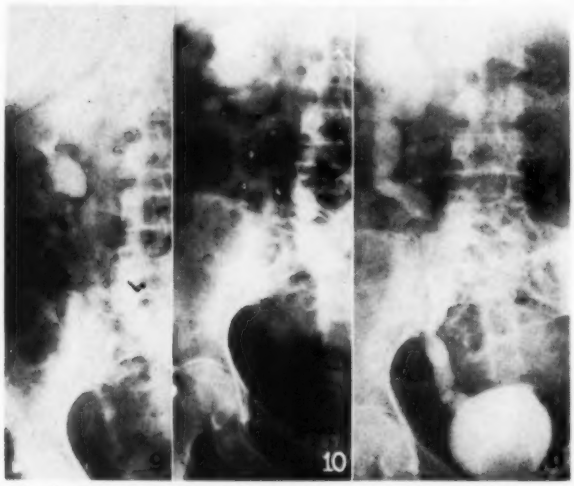

Fig. 9. Case 6, E.A.B. 19 July 1950. I.V.P. *Fig.* 10. Case 6, E.A.B. 8 March 1951, I.V.P. *Fig.* 11. Case 6, E.A.B. 19 July 1951. Showing cystogram with reflux up the ureter. (*Figs.* 9, 10, and 11 were published in the *British Journal of Urology*.[5])

Fig. 12. Case 7, V.M. 28 February 1951. I.V.P. *Fig.* 13. Case 7, V.M. 18 June 1951. I.V.P. *Fig.* 14. Case 7, V.M. 11 July 1951. Showing cystogram with reflux up ureter. (*Figs.* 12, 13, and 14 were published in the *British Journal of Urology*.[5])

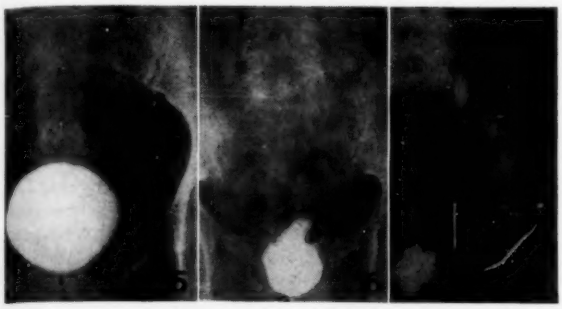

Fig. 15. Case 8, M.T. 3 January 1952. Cystogram. *Fig.* 16. Case 8, M.T. 18 July 1952. Cystogram. *Fig.* 17. Case 8, M.T. 23 July 1952. Retrograde ureterogram showing stricture of ureter. (*Figs.* 15, 16 and 17 were published in the *British Journal of Urology*.[5])

subsequently to increased fibrosis, but why this should occur in only a small proportion of cases is unknown. Secondary infection may be a factor, but is not always present. As regards the value of the various specific drugs, Sporer and Oppenheimer[6] report that INH has the greatest penetrant action in a caseous lesion and PAS the least, and also that INH causes increased vascularity and diminished fibrosis.

I have tried cortisone therapy in 4 cases in attempting to lessen the fibrotic changes, but have not been impressed by its value. Once these changes have been established the subsequent course is usually one of slow deterioration, but they may remain stationary or show some regression to a more normal appearance.

SURGICAL TREATMENT

1. In so-called 'auto-nephrectomy' with a partially calcified tuberculous pyonephrosis, nephrectomy is advisable.

2. In the small contracted bladder with reflux, there are a number of alternative procedures available, viz:

(*a*) Uretero-intestinal anastomosis to the large bowel. This cannot be recommended owing to the grave risk of ascending pyelo-nephritis.

(*b*) Cutaneous ureterostomy. The risk here is stricture formation near the skin, necessitating an indwelling catheter which leads to secondary infection. Three of the above cases were treated with cutaneous ureterostomy. Two died from uraemia approximately 1 and 2 years later. The third is still alive and well 7 years later. He is working full-time and has recently been promoted.

(*c*) Cutaneous uretero-ileostomy, and

(*d*) Ileo-cystoplasty. The latter two procedures are of considerable value, but I have no personal experience of them.

3. Where there is evidence that the lesion is localized to one pole of a remaining kidney, partial nephrectomy should be considered before the train of complications described above takes place (see case 1).

SUMMARY

1. The main late complications of renal tuberculosis are due to fibrotic contracture and deformity.

2. This leads to stricture formation in the upper renal tract with dilation above it and consequent renal destruction.

3. The contracture of the bladder, however, is usually associated with reflux up the ureter and associated dilation of the whole upper renal tract.

4. These changes may occasionally be exacerbated by specific therapy.

5. It is suggested that the persistent focus which maintains the disease after unilateral nephrectomy is usually in the kidney, occasionally in the bladder and very rarely in the stump of the ureter.

6. Various surgical measures utilized in these late complications are briefly referred to.

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THE TRANSPERITONEAL, TRANSVESICAL REPAIR OF VESICOVAGINAL FISTULA*

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My article, *The Transperitoneal, Transvesical Repair of the Vesicovaginal Fistula*, published in the October 1950 number of the *American Journal of Surgery*, was a brain child of desperation, born in 1946 of adversity. Today, my purpose will be to present to you this transperitoneal, transvesical technic for the repair of the vesicovaginal fistula following total hysterectomy.

My first patient was an obese Polish peasant woman who spoke only her mother tongue. She had undergone a total abdominal hysterectomy with a resulting vesicovaginal fistula. In due and proper time, she was operated on again for the correction of the fistula by her original gynecologist and a urologist, operating simultaneously by vaginal and transvesical routes without success. When I examined the patient she was totally incontinent, and I could insert my index finger through the vaginal opening of the fistula into the bladder with ease. My suggestion that a ureterosigmoid anastomosis be performed was rejected promptly and in no uncertain terms through the interpreter. I was told to attempt another repair to achieve a normal functioning bladder, and the closing remark by the patient, 'Cure or kill', resulted in my brain child which I am presenting to you today.

This procedure should be reserved for those cases which have been unsuccessfully repaired by the vaginal approach. Under these conditions the fistula calls for maximum exposure under direct vision, with minimal tension of the tissues used in the repair of the defect. The dictum, 'If you can see it you can do it', is basic to the management of the complicated vesicovaginal fistula.

Panhysterectomy, which is advocated for the prophylaxis of carcinoma in the cervical stump, confronts the surgeon with the possible risk of a complicating vesicovaginal fistula. Such fistulae, in contrast to those following obstetric procedures, are usually unsuitable for repair through the vagina.

*Paper Presented at 2nd Congress of Urological Association of South Af.ica (M.A.S.A.), Cape Town, July 1958.

Their location above the interureteric ridge and the absence of the cervix for use as a tractor make vaginal accessibility very difficult. The abdominal approach is more suitable for repair of these fistulae and is usually more successful.

It is interesting to note that the decline in incidence of vesicovaginal fistulae, because of improved obstetrics, has been balanced by an increased occurrence after radical gynecological surgery.

In evaluating the accepted methods of suprapubic repairs, the transperitoneal, transvesical route has the following advantages: First, better exposure is obtained, because the bladder is opened wide in the mid-line since there are no tissue folds to obscure the vision. Secondly, operative procedures through the peritoneal cavity allow much greater freedom of movement than through the anterior wall of the bladder. The bladder can be dissected more easily from the vagina from this perspective, and the epithelized fistulous tract can be excised under direct vision. Finally, as the bladder is open the ureters can be visualized, and catheterized if cystoscopic catheterization did not precede surgery.

THE OPERATION

Preparation. After a complete diagnostic urological work-up, the patient's chemical, nutritional and hematological defects are corrected. Multi-vitamins in large quantities, estrogens and broad-spectrum antibiotics are given in addition to the usual pre-operative bowel preparation.

After the patient is anesthetized, cystoscopy is performed and No. 5 ureteral catheters are inserted and left *in situ*. The vagina is prepared chemically and carefully packed with sterile gauze to gently distend the entire vaginal vault. The end of the packing is allowed to dangle over the patient's thigh; this will allow an outside assistant to remove the packing easily upon demand during the course of the operation. A Foley bag catheter is inserted *per urethra* and attached to an irrigating container of sterile methylene-blue solution.

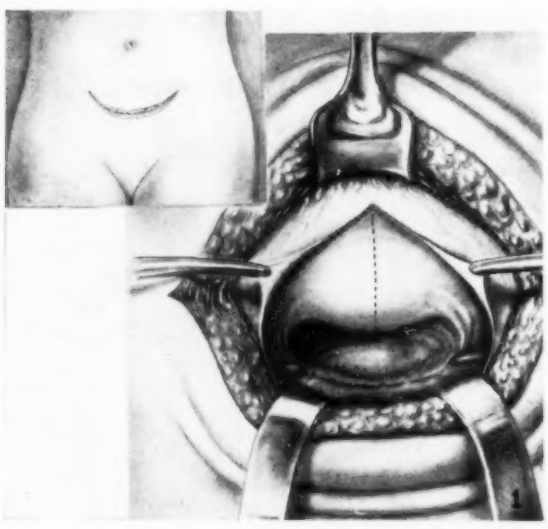

Fig. 1. Dotted line indicating line of incision of posterior bladder wall after intraperitoneal mobilization of bladder. Inset: Pfannensteil incision of abdomen.

Operation Technic

Fig. 1. An 8-inch Pfannensteil incision is made 1 finger-breadth above the pubic symphysis and carried down to the fascia. The skin and the subcutaneous tissues are dissected superiorly. The anterior rectus sheath is incised transversely, and the muscles are separated and retracted in the mid-line. The peritoneum is divided longitudinally under the usual precautions, and a Balfour self-retaining retractor is inserted. The intestinal contents are packed into the upper abdomen with laparotomy pads.

Fig. 2. The bladder is now identified and opened at the superior attachment of the peritoneum. The incision is carried downward through all coats of the bladder, including the peritoneum. The cut edges of the bladder are grasped with Allis clamps and held aside. This allows visualization of the fistula and ureteral orifices within its cavity. Under such vision, the incision is carried down to the fistula and the bladder is now pulled toward the pubic symphysis.

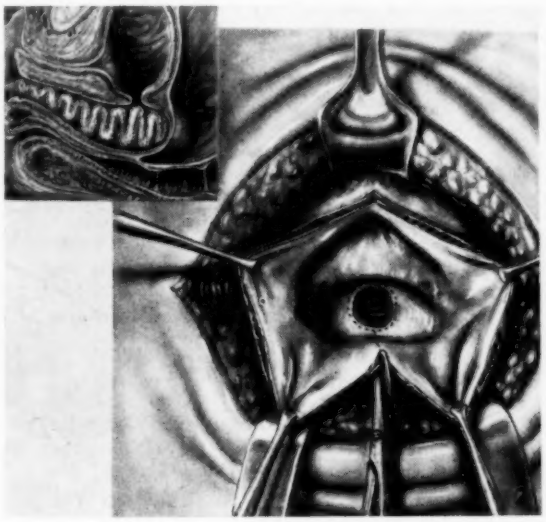

Fig. 2. Vagina packed with gauze to elevate floor of bladder. Bladder opened; incision being carried down to fistula. Inset: Sagittal view.

Fig. 3. Thus, if the surgeon works from within the peritoneal cavity he may separate the bladder from the vagina at the site of the fistula by merely opening the Metzenbaum scissors in the septum between these organs. At this point, the lining of the fistulous tract is trimmed off and the edges of the vagina are grasped with Allis clamps. The bladder and vagina are further separated by sharp dissection in order to obtain laxity of the tissues for closure. At this point, extreme caution should be taken not to injure the ureters. It is imperative at this time, if cystoscopic catheterization has not been employed, to pass ureteral catheters before any extensive dissection is performed. An outside assistant is then requested to remove the vaginal pack.

Fig. 4. The edges of the vagina are approximated with interrupted sutures of No. 00 chromic atraumatic catgut on

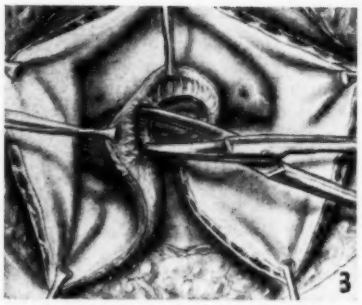

Fig. 3. Epithelized fistulous tract being completely excised; bladder musculature dissected from vagina.

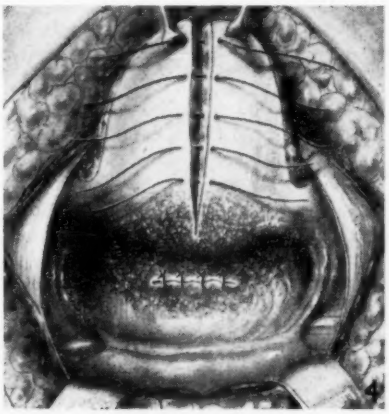

Fig. 4. Vaginal opening closed with interrupted atraumatic chromic sutures in transverse direction; bladder muscles sutured in linear direction with interrupted atraumatic catgut.

a No. 6 Martin needle. If it is feasible, this row of sutures should be made at right-angles to the closure of the bladder. This closure is optional, because the question of dead-space infection is eliminated by leaving it open for dependent drainage through the vagina. As the bladder edges are drawn forward and upward, the muscular layer is closed with interrupted sutures of No. 0 chromic catgut inserted from the peritoneal surface. This closure is made from the floor to the mid-portion of the peritoneal surface of the bladder. Then from within the bladder interrupted sutures of No. 00 atraumatic plain catgut are used to draw the urothelium together gently over the previous defect.

Fig. 5. Following the closure of the bladder musculature from the outside, the peritoneal coat of the bladder is next imbricated with a continuous suture of No. 00 chromic catgut. Irrigation of urethral catheter is then performed by the outside assistant to check for leaks of the methylene-blue irrigating solution. The laparotomy pads are removed, the intestinal contents are replaced, and the peritoneum is closed with or without drainage, according to the surgeon's judgement, by using a running No. 00 atraumatic chromic catgut suture.

Fig. 6. The extraperitoneal portion of the dome of the bladder is incised and a No. 36 Pezzer tube is inserted. The opening is closed tightly about the tube with interrupted

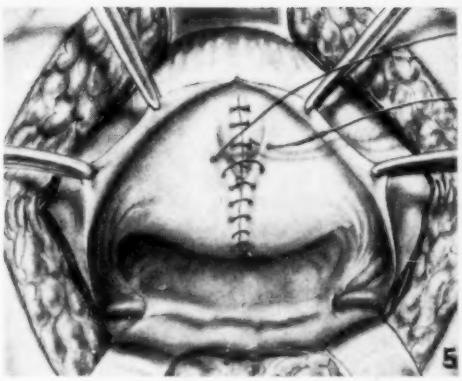

Fig. 5. Imbrication suture line of peritoneal coat of bladder with continuous atraumatic catgut.

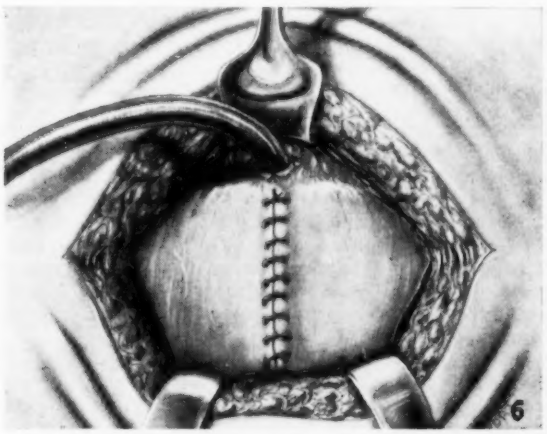

Fig. 6. Peritoneum closed; suprapubic drain inserted into extraperitoneal portion of bladder.

No. 0 chromic catgut. The wound is closed in layers. Plain catgut is used for muscle and chromic is employed for fascia. Interrupted sutures of plain gut are used subcutaneously, and the skin is approximated with interrupted vertical mattress sutures of black silk. The Pezzer tube is brought out through the center of the wound and a black silk suture is placed through the skin and the tube as an anchor. The urethral catheter again is irrigated with sterile methylene-blue solution to be sure of free flow of fluid through the Pezzer tube.

Post-operative Care

Upon return to bed, the patient is given continuous bladder irrigation with sterile normal saline, which flows through the urethral catheter and out the Pezzer tube. Vital signs are charted at frequent intervals for the first 24 hours. The patient is moved hourly in bed and lies supine. Broad-spectrum antibiotics are continued and demerol is used for post-operative pain. Transfusion and infusions are given to maintain fluid and electrolytic balance. Nothing is given by mouth for the first 24 hours. The tendency to

abdominal distension is anticipated by routine use of prostigmine, Harris drip and, if necessary, naso-gastric suction intubation.

Forty-eight hours after the operation the irrigation is discontinued and both tubes placed on dependent drainage. On the 5th post-operative day the patient is allowed to dangle her legs, and she is gradually mobilized on succeeding days. After 1 week the antibiotics are discontinued or decreased in dosage and the skin sutures are removed. The Pezzer tube is removed 10-14 days after the operation. The urethral catheter, although changed, remains *in situ* until the cystotomy and vaginal wounds are healed. The bladder is filled with saline through the catheter and the cystotomy and vaginal wounds are checked for leaks. If there is no leakage the catheter is removed.

The average stay in the hospital is about 3 weeks.

COMMENTS

I have performed this operation 16 times in cases where vaginal procedures were tried unsuccessfully, or where the fistula was high in the vagina or large. Of these, 15 have been successful in one attempt. One case required a second procedure, which was successful, but the patient developed a left uretero-vaginal fistula, complicated by septic pyonephrosis which required nephrectomy. This was my third case, and before routine cystoscopic ureteral catheterization became mandatory and not elective.

I hope you will never have cause to use this approach. However, if the situation should arise, I am certain that you will find, as I have done, that this technic provides a very satisfactory surgical exposure. It gives adequate and direct vision of the epithelized sinus tract, which must be completely excised if a favourable and permanent result is to be obtained.

SELECTIVE SACRAL NEURECTOMY IN INTERSTITIAL CYSTITIS WITH A MINIMUM 18 MONTHS FOLLOW-UP*

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In the past, far advanced interstitial cystitis carried almost no hope for cure except by cystectomy with associated uretero-sigmoidostomy or diversion of the urine to the skin. The fact that a certain number of patients accepted this rather than go on with their disease was proof positive of the discomfort they had suffered. The purpose of this paper is to merely carry the follow-up a bit farther on cases reported by one of us at the American Urological Meeting a year ago. Most things are of value only if they are capable of standing the 'test of time'.

We have followed the rule that this operation should be reserved for the grade-III classification of Hand, also employed by Engel, Meads and O'Conor. This grade represents the most advanced stage of the disease, where the lesions are usually diffuse and fissure readily on distension; the bladder capacity is usually greatly reduced. All of our cases fell into this classification and all had received all of the known therapies without more than just transient relief.

A. M. Meirowsky, of the department of neurosurgery at Vanderbilt University School of Medicine, by personal letter to our late Professor of Neurosurgery, Dr. Eldridge Campbell, informed him of 2 cases of Hunner's ulcer treated by differential sacral neurotomy. Dr. M. K. Moulder of the Department of Urology suggested this and worked with Dr. Meirowsky to pioneer this procedure on selected cases. A report of this work was published in the *Journal of Urology* about 2 years ago.

Meirowsky discovered, some time previously, while working with paraplegics, that differential sacral neurotomy increased bladder capacity through a reduction in the parasympathetic outflow to the detrusor and of the sacral somatic outflow. The results of these studies prompted his experiments with Hunner's ulcer.

Our department of neurosurgery, headed by Dr. Eldridge Campbell until his untimely death, and later by Dr. Robert Whitfield, became interested in the problem. We were most happy to find some sort of relief for a small group of people with this miserable disease for which we had been able to do practically nothing except occasional transient palliation—and this was very occasional.

Our series consists of 6 patients, all grade-III according to Hand, who were studied and operated upon between December 1955 and February 1957. All were female. The range in age was from 35 to 69, with an average age of 54. Their symptoms had been present between 5 and 12 years, with an average of 9·2 years. All had severe pain. All had had the large variety of treatment prescribed but only one had had a partial cystectomy. Two had gross hematuria. In every instance, the ulcers had been observed cystoscopically on several occasions.

Cases indicated for this procedure consist of those with Grade III lesions in which all known methods of treatment have failed save cystectomy, and in which nerve blocks produce a definite increase in bladder capacity.

METHOD

Pre-operative Observations. Before operation, selective blocks of the sacral nerves were made under radiographic control. Bladder capacity was determined before and after block, and the intravesical pressure at maximum distention was also established. The results are recorded in Table I. Operation was not advised in those cases where there was little increase in capacity following block, in accordance with Meirowsky's work.

TABLE I. OBSERVATIONS AT THE TIME OF BLOCK

Patient	*Nerves blocked*	*Bladder Capacity (c.c.)*		*Bladder Pressure (mm. water)*	
		Before	*After*	*Before*	*After*
1. B.H.	S3	45	170	not measured	
2. H.I.	S3	30	200	600	430
3. M.P.	S3	175	200	320	240
4. C.A.	S3	290	380	170	160
5. R.S.	S3	25	60	240	220
6. A.H.	S3	85	175	220	250

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Operative Exposure. A mid-line incision was made over the sacrum. The musculature was stripped back beyond the sacral crests bilaterally. The sacral foramina were identified by reference to the spinous process of the 5th lumbar vertebra. The 2nd and 3rd sacral foramina were unroofed, the nerves (anterior primary rami) freed and, in the 4 later cases, the 2nd and 3rd sacral nerves stimulated in turn, while cystometrographic observations were made. A member of the group estimated by digital examination the contractions of the anal sphincter and of the levatores ani. This stimulation of the nerves at the time of operation, was an innovation conceived by Dr. Campbell after the first 2 cases had been done, for he felt that this would aid in selecting the proper nerves to be sectioned. The 3rd sacral nerves were sectioned and a small piece removed to prevent regeneration, in all 6 cases. Hence the term 'neurectomy' rather than 'neurotomy'.

Observations at Operation. Table II records the results of stimulation of S2 and S3 in the last 4 cases. In 2 instances S2 gave marked bladder response but in the other 2 only

TABLE II. OBSERVATIONS AT OPERATION

Patient	*Nerves stimulated bilaterally*	*Change in Bladder Pressure (mm. water)*	*Rectal Sphincter Spasm*	*Contraction of Levator Ani*	*Nerves divided bilaterally*
2. H.I.	S2	320-450	marked		S3
	S3	320-380	slight		
4. C.A.	S2	none	marked	none	S3
	S3	200-600	none	moderate	
5. R.S.	S2	none	none	moderate	S3
	S3	240-600 +	marked	none	
6. A.H.	S2	380-440	slight	slight	S3
	S3	380-600	slight	marked	

No stimulation cases 1-3.

S3 had any effect on the bladder. S2 seemed to have more effect on the contractions of the rectal sphincter and levator ani but no conclusions can be drawn from this small experimental group.

RESULTS

Table III records the post-operative results, as far as the bladder is concerned, in the first few weeks following operation. Frequency and pain were relieved in all the cases except one and she was improved as far as frequency was concerned but still had some pain and an unhealed ulceration. All the other bladders showed good capacity and no evidence of ulceration.

TABLE III. POST-OPERATIVE RESULTS (BLADDER)

Patient	*Nerves divided*	*Bladder Capacity (c.c.)*		*Frequency*		*Healing of Ulcer*
		Pre-op.	*Post-op.*	*Pre-op.*	*Post-op.*	
1. B.H.	S3	45	180	10 min.	4 hr.	Yes
2. H.I.	S3	30	300	20 min.	3 hr.	Yes
3. M.P.	S3	175	200	15 min.	3 hr.	No
4. C.A.	S3	290	300	1 hr.	6 hr.	Yes
5. R.S.	S3	25	75	10 min.	2½ hr.	Yes
6. A.H.	S3	85	195	30 min.	4 hr.	Yes

Table IV shows the post-operative neurological deficits. In spite of some diminution in rectal sphincter tone, there was no rectal incontinence. Hypalgesia and perineal numbness were present in some patients. This hypalgesia was not severe and disappeared after a few weeks. Not one patient complained of this pain, for this was so minor compared to the previous vesical difficulties. None of the patients had residual urine or any difficulty voiding.

TABLE IV. POST-OPERATIVE DEFICITS

Patient	*Rectal Sphincter Tone—% of normal*	*Rectal Incontinence*	*Neurologic Deficit*
1. B.H.	75%	none	none
2. H.I.	75%	none	Hypalgesia, lateral left thigh
3. M.P.	75%	none	Hypalgesia, S3. Absent gluteal reflexes
4. C.A.	50%	none	Perineal numbness subjective
5. R.S.	75%	none	Absent ankle jerks
6. A.H.	75%	none	none

Table V represents a follow-up of the patients 1 year ago. It will be noted that the results have been excellent in all but one case. Interestingly enough, this patient (case 4), while not under our supervision, developed an ulcer in her urethra with almost complete loss of the urethra up to the vesical neck. A suprapubic cystotomy was done to preserve the vesical neck from further ulceration and to control haemorrhage, which had been severe, and strangely enough her bladder has now nearly healed of her previously present Hunner's ulcer. Some time in the near future, when the ulcer is entirely healed in the urethra, it is hoped a reconstruction of the urethra can be accomplished.

TABLE V. FOLLOW-UP

Patient	*Time post-op. (months)*	*Bladder Capacity (c.c.)*	*Frequency*	*Healing of Ulcer*	*Symptoms*
1. B.H.	17	450	4 hrs.	Yes	none
2. H.I.	14	375	3 hrs.	Yes	none
3. C.A.	12	300	3½ hrs.	Yes	none
4. M.P.	11	150	2 hrs.	No	Pain Bleeding
5. R.S.	13	160	3 hrs.	Yes	none
6. A.H.	6	430	4 hrs.	Yes	none

All of the other 5 patients have been checked regularly and there has been no recurrence of ulcer and no diminution of bladder capacity. One of the patients complains of a few symptoms of frequency without any objective findings to substantiate the cause.

This is a small series with a short follow-up, but at the present time the results warrant a continuance of this procedure in selected cases. As more and more cases are treated by this procedure, our knowledge will increase and the evaluation of the treatment can then be estimated. It may be necessary in some cases to section S2, as has been done in certain neurogenic bladders. We are indebted to Drs. Moulder and Meirowsky for initiating this procedure and to Drs. Campbell and Whitfield for so ably carrying on this work.

SUMMARY

1. Six patients having undergone post-sacral neurectomy for the cure of interstitial cystitis are reported.

2. In all cases blocking of the 3rd sacral nerve contributed to the bladder detrusor activity.

3. In 2 cases blocking of the 2nd sacral nerve contributed to bladder detrusor activity and in 2 cases produced no response.

4. In 5 cases there has been complete healing of the lesions with return of bladder capacity to normal, and no return of symptoms. In one case the result has not been 100% but there has been definite improvement.

5. It would seem that after an average of 24 months one should be able to state that post-sacral neurectomy is definitive and the treatment of choice for all interstitial cystitis falling into Grade-III classification.

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THE DIAGNOSIS OF BLADDER TUMOURS*

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The commonest presenting symptom of a bladder tumour is haematuria, which may be repeated but frequently occurs on one occasion only. In males over the age of 40, about half the cases are due to neoplasm. It is therefore obvious that haematuria, however slight, should always be considered seriously. Thus the first essential in diagnosis is the proper investigation of all cases of haematuria. This phase is usually the responsibility of the general practitioner.

CLINICAL INVESTIGATIONS

These patients should have a full clinical examination, which, although usually negative, should not be neglected. An I.V. pyelogram is often helpful for it shows the state of the upper urinary tract and it may on occasion reveal a primary tumour of the renal pelvis or ureter, or the bladder tumour may be seen as a filling defect in the cystogram. Cystoscopy usually facilitates location of the tumour and its macroscopic characters can be observed. The exact pathology of the growth is determined by biopsy. A careful bimanual pelvic examination should be done under anaesthesia, for if the growth is palpable, it is almost certainly an infiltrating carcinoma. All these steps are universally accepted and should be carried out as a routine in every case.

In recent years evidence has accumulated that the examination of the urine for neoplastic cells, using the Papanicolaou stain, may be of value. Hazard *et al.*[5] found neoplastic cells in 70% of cases with bladder tumours, and in cases with no tumour there were only 5·8% false positives. Rowland and Marshall[13] noted that a number of their cases with false positives later developed bladder tumours. They found the test positive in 95% of their cases. This test, therefore, should be used in the follow-up of cases with bladder tumours, particularly if neoplastic cells can be detected before the growth can be seen cystoscopically. The test may also be used in cases of haematuria, when full investigation is negative, for some of these cases may later manifest a bladder tumour. It has also been suggested as a screening test for workers in the dye industry, for it is more acceptable to the workers than a cystoscopy.

ASSESSMENT

The prognosis of bladder tumours depends almost entirely on the histology of the tumour, and the depth to which it has infiltrated through the bladder wall. Pugh[12] has shown that most tumours of a low grade of malignancy are confined to the mucosa and submucosa, while those that have infiltrated the muscle layers are mostly of a high degree of malignancy.

In view of the good results which are being obtained in the treatment of bladder tumours by transurethral resection and closed radon implants (Milner,[10] Emmett and Winterringer,[4] Yates-Bell and Hendricks[14]), it has become important to assess the histology and the depth of penetration endoscopically. Today there is little doubt that the best, and probably the only, method by which this can be achieved, is by means of the resectoscope. This method was strongly advocated by Milner[9] in 1949, who found that his biopsy reports were remarkably accurate when compared with the operative specimens. These findings have since been confirmed by a number of workers.

The great advantage of the resectoscope is that the base of the tumour can be resected and, if muscle is included, histological assessment of muscle infiltration can be made. It can be argued that infiltration of muscle can be assessed by a bimanual pelvic examination. Marshall[7] found that 33% of growths which were not palpable on bimanual examination showed infiltration of muscle in the operative specimen. Thus, this method alone is too inaccurate.

When examining a bladder which is the seat of a tumour, careful attention should be given to those parts not involved by the tumour, for Masina[8] has described areas of reddening and oedema which may occur next to the growth or on occasion remote from it; biopsy specimens of these areas should be examined. One illustrative case has recently been seen, where a patient had a solid carcinoma at the bladder neck and an area of oedema on the dome which on biopsy showed carcinoma. This case probably illustrates the thesis of Roger Baker[1] that if the growth has gone through the muscle layer the lymphatics of a considerable area of the bladder are involved.

One difficulty in the use of the resectoscope is the treatment of growths in the dome of the bladder in the male, partly due to the mechanical difficulty and partly because the size of these tumours is more difficult to assess. Beach[2] has suggested operating on these cases through a perineal urethrostomy in the prone position. An easy way out of the difficulty is to obtain a biopsy specimen of the growth with a rongeur and, if the growth is malignant, a partial cystectomy can be done.

LESS MALIGNANT TUMOURS

All bladder tumours have a tendency to recur and they should therefore be examined periodically for many years. It may therefore be of value to consider the behaviour of certain of the less malignant papillary tumours.

The typical villous papillomata with narrow pedicle, delicate fronds and benign histology do very well on cystoscopic diathermy, even though they continue to produce recurrences for many years. However, Deming[3] found that 7·8% of his cases developed malignant tumours over a 15-year period.

The group of sessile papillary tumours with stunted fronds are on the borderline between the benign and the malignant. In the past the response of these tumours to cystoscopic

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fulguration was used as a method of diagnosis. Irvine[6] has shown, however, that when it becomes obvious that the tumour is not responding, it has usually infiltrated through the bladder wall. He also found that when this group of tumours was treated by cystoscopic fulguration, without biopsy, 50% died of carcinoma within 5 years. These tumours should be handled by transurethral resection, for they are then more adequately excised and a biopsy is obtained.

Papillary tumours which are excised by open operation may give rise to implants in the wound; these implants are almost invariably malignant. However, in cases being treated endoscopically, growths may implant on the bladder neck, probably on areas which have been traumatized by the instruments. These implants are usually not malignant.

DIAGNOSTIC DIFFICULTIES

As a rule the diagnosis of bladder tumours is straightforward. There are, however, some clinical problems as well as some difficulties in cystoscopic interpretation, which should be considered.

On occasion cases of haematuria are fully investigated and no abnormality found. Some of these cases may later show bladder tumours. The diagnosis may be missed because of the small size of the growth or its occurrence in a 'blind area' in the dome, particularly if there is an associated enlargement of the prostate. It is in this group of cases that the examination of the urine for neoplastic cells with the Papanicolaou stain may be of value.

A patient with a bladder tumour may present with retention due to prostatism and no history of haematuria, and it is for this reason that a cystoscopy is done as a preliminary to a prostatectomy.

An embarrassing source of error is an incorrect pathological report. This difficulty appears to have been more prevalent when small specimens were taken with small biopsy forceps. When reasonable amounts of tissue are taken with the resectoscope, errors are uncommon.

Inflammatory changes in the bladder, due to tuberculosis, diverticula, stones, indwelling catheters, vesico-intestinal fistula or bilharzia, may all simulate carcinoma on cystoscopy, but are usually distinguished by biopsy. Irradiation cystitis, particularly if the irradiation has been given for a bladder tumour, may cause considerable difficulty, and here again the diagnosis is made on biopsy examination.

Carcinomas of adjacent organs may invade the bladder and present like primary bladder tumours. The commonest are carcinoma of the colon, the rectum, the uterus, the cervix and the prostate. In these cases the bulk of the tumour is felt outside the bladder, on pelvic examination, and the biopsy specimen does not show the histological features of a bladder tumour.

Cystitis cystica and cystitis glandularis are not uncommon metaplastic lesions, occurring in bladders which are the seat of chronic or recurrent infections. They are usually quite innocent, but recently Nesbit[11] reported a case which showed typical cystitis cystica and glandularis on cystoscopy, but the biopsy showed adenocarcinoma. One patient has been seen where typical cystitis cystica and glandularis were found on cystoscopy, but the biopsy examination showed adenocarcinoma. This patient ultimately died of bladder carcinoma with secondary deposits in her spine.

The assessment of cases who have had a partial cystectomy for carcinoma may cause difficulty, for a malignancy may be present outside the bladder and a villous papilloma in the bladder. For example, an elderly lady had a partial cystectomy for carcinoma and 2 years later she had a typical villous papilloma of the bladder, which was fulgurated. She was found to have an enlarged gland in the neck, which showed transitional-cell carcinoma on biopsy. She later died from metastases.

SUMMARY

In the diagnosis of bladder tumours the first essential is the institution of appropriate investigations in all cases of haematuria. These investigations are an intravenous pyelogram, a cystoscopy, a biopsy and a bimanual pelvic examination under anaesthesia.

The histology of the tumour and the depth to which it has invaded the bladder wall is assessed by removing the tumour and its base with the resectoscope and submitting the pieces to microscopic examination. Assessment by this method is remarkably accurate.

In spite of all the diagnostic aids, there are still some pitfalls and difficulties, most of which can be solved by careful clinical and cystoscopic examination, together with histological examination of biopsy material.

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PREVENTION OF THE COMPLICATIONS OF PROSTATECTOMY

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Enough has been written and said about the actual complications after prostatectomy, and I propose rather to discuss the prevention of complications.

Much post-operative trouble can be avoided by thorough pre-operative examination, and here I want to stress the importance of looking at the patient as a whole. We must consider his weight, his chest, his cardiac reserve, his blood pressure, varicose veins, his mental state, his bowel habits, glycosuria, haemorrhagic tendencies, etc.

From the urological point of view, the following 3 points are to be stressed: (*a*) Make a thorough rectal examination. (*b*) See the patient pass urine yourself if at all possible. (*c*) Secure good IVPs, excretion cystograms, and retrograde cystograms whenever a catheter is *in situ* and whenever one is in doubt about the presence of diverticuli, reflux, etc.

There are 3 troublesome post-operative complications

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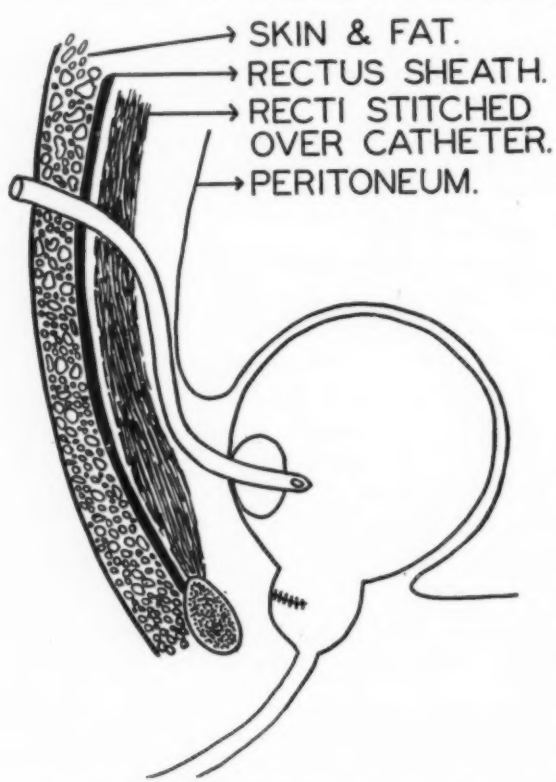
which in my experience can be largely avoided by one single manœuvre. These are (1) haemorrhage and clot retention, (2) infection, and (3) urethral stricture. The manœuvre is the suprapubic insertion of a large Foley's catheter, size 26 or 28 F, with a 5 c.c. bag.

It is this manœuvre which is the subject of this paper. It is easily carried out by either the transvesical or retropubic method. It renders a comparatively small urethral catheter sufficient (size 18 or 20 F, with a 30 c.c. bag).

Before the bladder or prostatic capsule is sewn, the peritoneum is pushed up to near the top of the bladder, and a long curved artery forceps is forced through the bladder wall and the outside end of the catheter grabbed and pulled through.

In the Millin retropubic approach a stab wound is now made through the skin and upper flap of rectus sheath, and the catheter delivered through these holes and stitched to the skin.

After the prostatic capsule is repaired and a retropubic drain left in, the rectus muscle is stitched over the catheter, thus creating a long oblique tract. Deep to it is peritoneum and in front are rectus muscle, anterior rectus sheath, subcutaneous tissue and skin (See Figure). This is important,



because when this catheter is removed even after a few months, there is never a leak for more than a day, and usually not even for a few hours. The soft peritoneum is pushed by intra-abdominal pressure onto the back of the firm rectus muscle, and the tract is further occluded by laying a sausage of gauze over it and strapping it firmly down. I use a Foley's catheter because it is so much easier to remove than a de Pezza tube, and its removal is quite painless.

Now how does this second catheter prevent the 3 complications?

A. *Haemorrhage.* By having 2 catheters and frequently pumping the rubber tubes connecting them to their bottles, one keeps the catheters free of blood clot; clot retention, the biggest cause of haemorrhage is thus avoided. Only if there is actual obstruction in both tubes do I allow irrigating with sterile saline. I believe that irrigating the bladder brings in sepsis and encourages bleeding by washing off adherent clots. And, may I here make an appeal that we should all insist on closed catheter drainage, with sterile connecting tubes and collecting bottles. The old dirty habit of having a tube hanging into an open septic bottle, more often on the floor than in the bottle, and next moment carried high by the patient in his wanderings round the ward, so running the septic contents of the end of the tube into the bladder with its raw surface, is contrary to all the principles of aseptic surgery.

B. *Infection.* Two tubes are better assurance of continuous drainage than one; and obstruction means infection. We all like taking out urethral catheters early and, if the patient is then not properly emptying his bladder, especially in the chronic-obstruction type with an atonic bladder, he is left with a varying amount of residual urine, which almost invariably leads to infection—rigors, pyelonephritis, septicaemia. I now remove the urethral catheter the moment bleeding has stopped, usually about the 4th day, and I do not mind how long I leave in the suprapubic tube. In favourable cases the latter is clamped on the 7th day, the patient passes urine in a standing position, and while he is still standing the tube is unclamped and the residue measured. If he passes it easily and leaves a negligible residue the suprapubic tube is also removed. But, if there is an atonic bladder with large residue, I send the patient home with his suprapubic catheter for as long as is necessary. If bladder washes now become necessary, e.g. in a sacculated atonic bladder, they are easily carried out. No catheterization is necessary to wash out the bladder or to determine residual urine. As I said before, even after several months the oblique tract does not leak on removal of the tube.

C. *Stricture.* Stricture is caused either by trauma during cystoscopy, or by leaving a large indwelling catheter for too long. If we depend on one catheter, it stands to reason it must be big, and it must be firm to get rid of clots. What is more, it must stay for 4-7 days to allow of haemostasis and healing of the vesical or capsular incision, and it may have to stay much longer if we are dealing with a large atonic bladder. At one time red rubber catheters were blamed for strictures; but I have had this complication equally often following plastic Foley's tubes, and polyvinol types of tubes. The strictures form (1) at the meatus or just inside or (2) at the bend of the urethra in the perineum, or (3) the whole urethra may occasionally become involved. Apart from narrowing at the bladder neck, which can usually be prevented by adequate trigonectomy, this post-operative stricture, occurring sometimes within a week and sometimes 6-8 weeks later, can be most trying to patient and surgeon alike.

The big suprapubic catheter makes it possible to have a

small urethral catheter for a short period only. To those who say that the ordinary transvesical or Millin operation is so satisfactory that they do not want to vary their old methods, I can merely say, try this simple manœuvre. It takes 2 minutes longer. I can see no possible disadvantages, and I sleep much better for its use.

ECTOPIC URETER IN THE MALE: CASE REPORT *

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Ectopic ureter in the female, in whom symptoms of incontinence occur by virtue of the fact that the ectopic orifice is situated distal to the vesical sphincter, is not infrequently encountered. In the male, the ectopic orifice lies proximal to the external sphincter, and so attention is only directed to the anomaly if infection ensues.

Two excellent reviews (Young, 1955, and Goldstein and Heller, 1956) have recently appeared in the English and American literature. These show that in only 12 male patients has the clinical diagnosis of an ectopic ureter opening into the genital tract been reported, while a further 32 cases have been found at autopsy.

One other case not mentioned in these reviews is described by Twistington Higgins *et al.* in *Urology of Childhood* (1951). Most of its features are similar to those of our case.

Our case is similar to the majority of those previously published; the ectopic ureter arose from a hypoplastic kidney and opened into the seminal vesicle.

CASE REPORT

The patient, a man aged 37, was first seen in May 1958. He described 3 attacks of difficulty in passing urine, in August 1956, April 1957 and March 1958. During the first of these there had been no associated symptoms, but in the second there had been some burning on micturition. During the third attack, the patient had experienced considerable burning and also increased frequency of micturition and the left testicle had become painful and swollen, but this subsided within a week. On each occasion the urine had been examined by his physician, who found some pus cells. Each attack lasted a few days, the third, about 10 days, being the longest.

On physical examination no abnormality was detected in the chest or abdomen. The blood pressure was normal. A small nodule could be felt in the inferior pole of the left epididymis.

On rectal examination the prostate felt normal and the seminal vesicles were not palpable.

Examination of the urine showed an occasional white blood cell, and prostatic massage produced no change in microscopic appearances.

Intravenous pyelography was carried out and demonstrated a normal right kidney and ureter. On the left side, no definite renal outline could be seen and no evidence of the contrast was detected up to 4 hours after injection. The bladder showed an indentation in its left upper quadrant.

At cystoscopy, the right ureteric orifice and right half of the trigone appeared normal. The left half of the bladder base was displaced forwards and medially by a large cystic sausage-shaped swelling, which was flaccid and easily indented by the tip of the cystoscope. This ran from above downwards for about 5 cm., at which point it narrowed and then bulged into the floor of the prostatic urethra as far as the verumontanum. The left ureteric orifice and the opening of the left ejaculator duct could not be identified. With the use of a Stern McCarthy resectoscope carrying an infiltration needle in place of the cutting loop, the cyst was punctured and some thick, tenacious, yellow opalescent fluid withdrawn. This contained some white blood cells, but was sterile and no spermatoza were demonstrated. Through the same needle 30 c.c. of 20% diodone were injected and radiographs were taken immediately and up to 4 hours after injection. This demonstrated a tubular structure in the pelvis (Figs. 1A and 1B) but, although the patient was kept tilted with his head down, no contrast could be made to pass towards the kidney.

Five days later the left vas deferens was punctured in the scrotum and contrast injected. This demonstrated a grossly dilated ampulla but no definite vesicle. Some contrast entered the cyst or bladder (Fig. 2).

The diagnosis of an ectopic ureter entering the genital tract was therefore made and operation advised. A left extra-peritoneal paramedian approach was used. The ureter was found to be greatly dilated below the pelvic brim and showed a well-marked constriction where it was crossed by the superior vesical vessels. Above the brim it was only slightly distended. It arose from an atrophic, cystic kidney lying opposite the 4th lumber vertebra. The kidney was removed.

On being followed down, the greatly distended ureter was

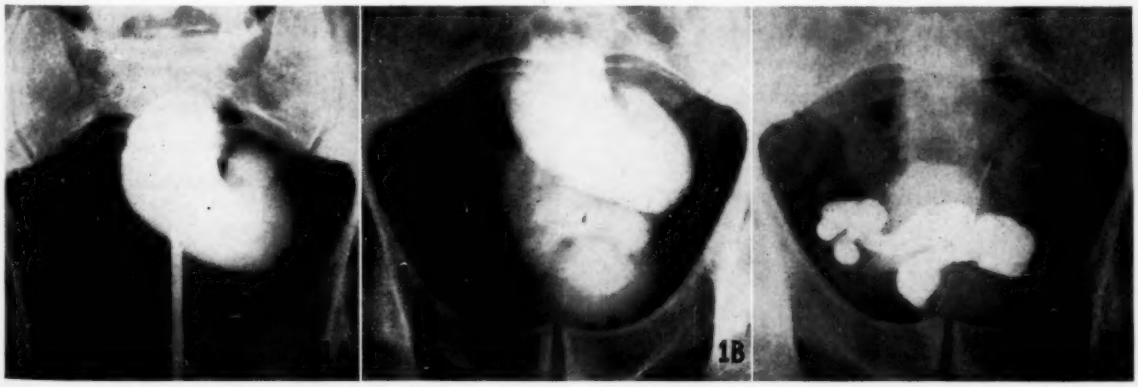

Fig. 1. Cyst outlined by injection of contrast medium during cystoscopy. A: Immediate. B: Four hours after injection.
Fig. 2. Dilated ampulla of vas shown at seminal vesiculography.

* Paper presented at 2nd Congress of Urological Association of South Africa (M.A.S.A.), Cape Town, July 1958.

found to enter the bladder wall as usual, passing obliquely through the muscle into the submucosal position, and then to re-emerge partly from the wall at the posterior aspect of the neck, where it was joined by the greatly dilated ampulla of the vas. The two continued downwards as a very wide ejaculatory duct, which easily admitted the tip of the little finger. This duct was divided and the ureter and ampulla of the vas were removed.

Post-operative progress was uneventful.

SUMMARY

A case of ectopic ureter is described, opening into the genital tract in the male and presenting characteristic features.

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SOUTH AFRICAN COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

PNEUMOCONIOSIS CONFERENCE: 9-24 FEBRUARY 1959*

An International Conference on pneumoconiosis will be held in the Great Hall, University of the Witwatersrand, Johannesburg, and will be attended by delegates and observers from a number of countries, including the USA, UK, Rhodesia, Switzerland, Italy, Germany, Belgium, Australia and South Africa.

Programme

Monday 9 *February:*

10.00 a.m. Opening Ceremony—His Excellency the Governor General.
11.30 a.m. Visit Miners' Chest Clinic.
2.30 p.m. Visit Pathology Division.

Tuesday 10 *February:* 9.00 a.m. Visit Pneumoconiosis Bureau.
2.15 p.m. Chairman Prof. A. Houbrechts (Belgium).

The physical and chemical properties of silica, silicates and modified forms of these in relation to pathogenic effects—E. J. King and G. Nagelschmidt (UK).

The bio-assay of dust with particular reference to experimental methods—A. J. Vorwald (USA).

Animal experiments on important parameters of dust in relation to production of fibrosis—B. Goldstein (S.A.).

Respiratory dust retention and elimination—T. F. Hatch (USA).

Optical and electron-microscope studies of the deposition of dust in the respiratory tract—W. Walkenhorst (Germany).

Wednesday 11 *February:* 9.00 a.m. Chairman: Prof. J. Gough (UK).

Inhaled submicroscopic particles in the pathogenesis and pathology of silicosis—A. J. Vorwald (USA).

Relation between lung pathology and lung dust analysis—G. Nagelschmidt (UK).

Methods of relating information concerning dust with medical criteria—D. G. Beadle and A. J. B. Wiid (S.A.).

What should be measured in dust sampling—A. Houbrechts (Belgium).

What should be measured in dust sampling—A. J. Orenstein (SA).

The pathology of gold miners' silicosis in South Africa—Ian Webster (SA).

A comparative study of bronchi of 100 White South African gold miners—C. B. Chatgidakis (SA).

The bronchi in silicosis—G. Worth (Germany).

Chronic bronchitis in coal miners—F. Lavenne (Belgium).

Emphysema in relation to pneumoconiosis—J. Gough (UK).

Thursday 12 *February:* 9.00 a.m. Chairman: Prof A. J. Vorwald (USA).

The eart in silicosis—B. J. P. Becker and C. B. Chatgidaksi (SA).

The heart in coal miners' pneumoconiosis—cor pulmonale—q F. Lavenne (Belgium).

The pathogenesis of cor pulmonale in silicosis and coal miners' pneumoconiosis: The relative influence of vascular changes and ventilation impairment—F. Lavenne (Belgium).

The correlation between E.C.G. criteria, clinical manifestations and necropsy findings in silicosis—B. van Lingen (SA).

Correlation between E.C.G. criteria, clinical manifestations and necropsy findings in coal miners' pneumoconiosis—F. Lavenne (Belgium).

Correlation of radiological and necropsy findings in silicosis—M. Hurwitz and J. C. Wagner (SA).

Pathological aspects of asbestosis in South Africa—J. C. Wagner (SA).

Clinical aspects of asbestosis in the Northern Cape—C. A. Sleggs (SA).

The radiological aspects of asbestosis—Maurice Hurwitz (SA).

The part played by free silica in the pathogenesis of coal workers' pneumoconiosis—G. Nagelschmidt (UK).

Pneumoconiosis and infection—J. Gough (UK).

Experimental infective pneumoconiosis—E. J. King (UK).

The clinical and epidemiological aspects of the role of tuberculosis in pneumoconiosis—A. Meiklejohn (UK).

Friday 13 *February:* 9.00 a.m. Chairman Prof. P. H. Rossier (Switzerland).

The immunological approach to silicosis—Ian Webster, H. Palmhert, D. R. Cooper, C. S. Anderson, A. Zoutendyk, R. E. Silverton and G. McNab (SA).

Contribution by Prof. E. C. Vigliani (Italy).

Rheumatoid pneumoconiosis—J. Gough (UK).

Scleroderma in gold miners—L. D. Erasmus (SA).

The influence of colloidal silicic acid on the *in vitro* oxygen consumption of tissues—F. M. Engelbrecht (SA).

The chemical approach to therapy of pneumoconiosis—D. A. Sutton (SA).

The therapy of silicosis—G. K. Sluis-Cremer (SA).

Thursday 12 *February and Friday* 13 *February:*

The Dust and Engineering Group will organize a series of lectures under the chairmanship of Mr. F. G. Hill and Prof. T. F. Hatch respectively.

Saturday 14 *February:* 9.00 a.m. Chairman Prof. E. C. Vigliani (Italy).

The chemical changes induced by fibrogenic and inert dusts—D. A. Sutton, M. G. Breyer and T. A. Kilso-Smith (SA).

Mucopolysaccharides and lipids in the lungs of experimental animals—J. S. Harrington, A. J. Charlson, M. D. Melamed and D. A. Sutton (SA).

Proteins in the lungs of experimental animals—D. R. Cooper (SA).

Amino acids in the lungs of experimental animals—P. Baily (SA).

The histochemistry of silicotic islet formation—Ian Webster and D. E. Munday (SA).

Monday 16 *February:* Visit a gold mine.

Tuesday 17 *February:* 9.00 a.m. Chairman Dr. R. Paul (Rhodesia).

Dust exposure and occupation in relation to pneumoconiosis—John Rogan (UK).

Epidemiological methods developed for the study of coal-workers' pneumoconiosis, and their possible relevance to the study of silicosis—J. C. Gilson (UK).

Pneumoconiosis related to dust exposure and occupation—A. Houbrechts (Belgium).

* Passing Events (1958): S. Afr. Med. J., 32, 813.

Statistical studies of pneumoconiosis related to dust exposure, occupation, age, radiological category, progression and other relevant factors—A. J. B. Wiid (SA).

The value and limitations of pre-employment examinations in South African experience—J. H. Loots (SA).

Comparison of the value of 70 mm. films and full-size radiographs in the early detection of silicosis—J. A. Louw (SA).

The radiological diagnosis of early silicotic nodulation—C. P. Theron (SA).

How much physiological information can be obtained from a plan radiograph?—Eric Samuel (UK).

Wednesday 18 *February:* 9.00 a.m. Chairman Dr. G. Worth (Germany).

Changes in lung performance with age—J. C. Gilson (UK).

Changes in clinical, pathological and radiological findings due to ageing—J. Gough (UK).

Radiological manifestations of pulmonary changes due to ageing—Eric Samuel (UK).

Radiological appearances of the more common pneumoconioses and other conditions which simulate them—O. A. Sander (USA).

Assessment of pulmonary disability—P. H. Rossier (Switzerland).

Assessment of pulmonary disability in coal-miners' pneumoconiosis—F. Lavenne (Belgium).

The effect of continuing in original dusty occupation on the progression of pneumoconiosis—O. A. Sander (USA).

What advice should be given to a person in the early stages of (*a*) silicosis, (*b*) coal-workers' pneumoconiosis, (*c*) asbestosis, and (*d*) other pneumoconioses—A. Meikeljohn (UK).

Psychology of the silicotic miner—G. K. Sluis-Cremer (SA).

Lung function of the Witwatersrand goldminers—S. Zwi (SA).

Relations between clinical findings and pulmonary function tests in pneumoconiosis—B. van Lingen (SA).

Thursday 19 *February:* 9.00 a.m. Chairman Prof. P. H. Rossier (Switzerland).

Differentiation of pulmonary and cardiac dyspnoea by pulmonary function tests—R. Kamener (SA).

Exercise tolerance—C. H. Wyndham (SA).

Evaluation of effort tolerance test—F. Lavenne (Belgium).

The treatment of tuberculosis associated with silicosis—M. A. Pringle (SA).

The aetiology and treatment of pleural effusion in African mine labourers—S. J. Fleishman (SA).

Somatotype and pneumoconiosis—B. van Lingen (SA).

Study of twins among miners—G. K. Sluis-Cremer (SA).

Coronary disease and hypertension in miners—H. D. Jacobs (SA).

Hypertension and coronary diseases in coal mines—F. Lavenne (Belgium).

Friday 20 *February:* 9.00 a.m. Completing any unfinished discussions.

8.30 p.m. Official closing of Conference by a member of the Cabinet of the Parliament of the Union of South Africa.

Saturday 21 *February:* 9.00 a.m. Meeting of Chairmen and reporters to draft findings and recommendations.

Monday 23 *February:* 9.00 a.m. Plenary session to discuss draft findings and recommendations.

Tuesday 24 *February:* 9.00 a.m. Plenary session, adoption of findings and recommendations.

RETIREMENT OF DR. J. P. DE VILLIERS

A reception was held on 23 January 1959 at the Civic Centre, Parow, Cape, by the Municipalities of the Cape Divisional Council Combined Health Control Scheme in honour of Dr. J. P. de Villiers, C.B.E., who is shortly retiring after 32 years as Medical Officer of Health of the Cape Divisional Council and of the Combined Health Control Scheme. There were present the Chairman of the Cape Divisional Council (Counc. Starke) and the Mayors of Parow (Counc. van Zyl), Goodwood (Counc. Consani), Bellville (Counc. West), Durbanville (Counc. van der Westhuizen), Milnerton (Counc. Savage) and Fish Hoek (Counc. de Kock). Amongst Dr. de Villiers' medical colleagues who were present were Dr. J. du Pré le Roux (Secretary for Health), Dr. E. D. Cooper (Medical Officer of Health, City of Cape Town), Dr. R. L. Retief (Director of Hospital Services, Cape Province), Dr. R. J. Smit (Chief Regional Union Health Officer, Cape), Dr. G. M. Malan (President, Cape Western Branch, M.A.S.A.), Dr. F. K. Mitchell, Dr. F. L. Thomas, Mr. T. B. McMurray, Dr. I. Mallach and Dr. T. Shadick Higgins. Mrs. J. A. Mitchell was also present, and most of the foregoing were accompanied by their wives.

The Mayor of Parow and Mrs. van Zyl acting as host and hostess received the guests with Dr. and Mrs. de Villiers.

Counc. van Zyl referred to Dr. de Villiers' distinguished terms of office as Medical Officer of Health. As the first to hold the combined position it had fallen to Dr. de Villiers to build up from its foundation the large organization which constituted the health department of the Divisional Council and the 7 municipalities which were included in the scheme. The growth of the area in population and otherwise had been almost unprecedented in its rapidity. Conspicuous in Dr. de Villiers' administration had been the network of clinics with which the area had been covered and the institution of the Dr. A. J. Stals Memorial Sanatorium, a hospital which was providing accommodation for 500 non-European cases of tuberculosis and which now formed an important constituent in the tuberculosis hospital scheme for the Cape Peninsula as a whole. The Mayor spoke of the sense of loss the councils and staffs of all the constituent municipalities felt in Dr. de Villiers' retirement.

The Mayor of Durbanville in proposing the toast of Dr. de Villiers mentioned that Dr. de Villiers was brought up in his father's country parsonage at Calvinia and, after active service in South West Africa in 1914, proceeded to the University of Cape Town and Trinity College, Dublin, where he graduated M.D.Dubl. and D.P.H. He was the first joint medical officer of health of the city of Grahamstown and the Albany District. During World War II he had served as A.D.M.S. of the 1st South African Division in the campaign in Abyssinia and Egypt, and had retired with the rank of Brigadier. Counc. van der Westhuizen went on to say that it was important that Dr. de Villiers' services should not be lost to the community and referred with satisfaction to the fact that he was accepting the part-time appointment of Head of the Department of Public Health in the University of Stellenbosch.

Mr. D. J. Cloete, formerly of the Cape Divisional Council and the Parow Village Management Board, also spoke with cordial appreciation of Dr. de Villiers and his work, and Counc. Mrs. Paris, representing Fish Hoek in the Combined Scheme, on behalf of the partner authorities made a presentation to Dr. de Villiers consisting of a morocco leather brief-case and other gifts.

In reply Dr. de Villiers emphasized that the services of the Combined Health Scheme could never have been achieved without the whole-hearted cooperation not only of those concerned with its administration from within, but also of the Union Health Department, the hospital and school medical departments of the Provincial Administration, and the Cape Town City Health Department. These had been received in full measure. He spoke particularly of the late Dr. J. A. Mitchell, whom he regarded as his father in Public Health. As Secretary for Health Dr. Mitchell, who had been responsible for the Public Health Act 1919 and much other important health legislation, had produced the blueprint of the Combined Health Scheme and had seen it through Parliament. Dr. de Villiers said how gratified he was at Mrs. Mitchell's presence at the reception. He concluded by mentioning certain convictions which had been borne in on him. One was the importance of local government bodies in South Africa; they were the backbone of the country's health administration, and he urged that those engaged in local government should never sell their birthright. Another conviction he had was the

importance of voluntary service in health work; such service was innate in the South African national character.

Mention was made that Dr. F. K. Mitchell, Assistant Medical Officer of Health (son of the late Dr. J. A. Mitchell) had been appointed Medical Officer of Health in succession to Dr. de Villiers by the Cape Divisional Council with the unanimous approval of the partner health authorities. The appointment awaited the statutory approval of the Minister of Health.

FIRST SCIENTIFIC CONGRESS OF THE ASSOCIATION OF PHYSICIANS OF SOUTH AFRICA

Dr. H. Muller, Hon. Secretary, Cape Town Sub-group writes: The first scientific congress of the Association of Physicians of South Africa was held in Cape Town on 8-10 January 1959. The programme of this meeting was published in the *South African Medical Journal* on 3 January 1959 (**33**, 16). Approximately 50 physicians from all the main centres of the Union attended the Congress.

After the opening ceremony by His Worship the Mayor of Cape Town, Col. J. W. O. Billingham and Prof. J. P. Duminy, the Vice-Chancellor of the University of Cape Town, the first two days were occupied by a full programme of papers and discussions. On the morning of 10 January the meeting was held in Groote Schuur Hospital, where demonstrations of the bubble oxygenator (heart-lung machine) and the artificial kidney were presented, as well as a clinical session for the discussion of cases of particular interest.

Social events included a cocktail party, given by the Vice-Chancellor of the University of Cape Town at his residence, a luncheon given by His Worship the Mayor in the Banqueting Hall of the City Hall, Cape Town, and a dinner at the Civil Service Club, Cape Town. Wives of attending physicians were entertained at the cocktail party and also to a lunch, while outings and drives were also arranged.

It has been decided that in future the Association of Physicians will hold a similar scientific meeting at 2-yearly intervals, in the years between the Congresses of the Medical Association of South Africa.

A special feature of the meeting was the interesting and instructive trade exhibit by the medical, pharmaceutical and electrical firms listed below. These firms also gave generous financial support to the Congress.

B.L. Laboratories (Pty.) Ltd.
British Drug Houses S.A. (Pty.) Ltd.
Burroughs Wellcome & Co. (S.A.) Ltd.
Boots Pure Drug (Pty.) Ltd.
Ciba Laboratories Ltd.
Cyanamid Products of Great Britain Ltd. Lederle Laboratories Division.
Glaxo Laboratories S.A. (Pty.) Ltd.
Imperial Chemical Industries S.A.
Alex Lipworth Ltd.
Eric Mance (Sanborn-Picker).
Maybaker S.A. (Pty.) Ltd.
Merck Sharp & Dohme International.
Noristan Laboratories (Pty.) Ltd.
Parke Davis Laboratories (Pty.) Ltd.
Protea Holdings Ltd.
Reckitt & Colman Africa Ltd.
Saphar Laboratories Ltd.
A. G. Schering Corporation, Berlin.
Westdene Products (Pty.) Ltd.
Wyeth Laboratories Ltd.

The Management Committee of the Congress decided to donate an amount of £59 9s. 5d.—the profits resulting from the Congress—to the Benevolent Fund of the Medical Association.

THE SOUTH AFRICAN MEDICAL AND DENTAL COUNCIL

At the last meeting of the Council, a Special Disciplinary Committee of the Council reported that it had held an enquiry in terms of Section 81 of the Medical, Dental and Pharmacy Act, in regard to the matters mentioned therein, relating to Dr. J.F.S. and Dr. F.J.K. The enquiry was held on 2 October 1958, as to whether: '(1) they had become unfit to purchase, acquire, keep, use, prescribe, order, supply or possess any habit-forming drug, (2) they had been using a habit-forming drug for other than medicinal purposes and (3) they had become addicted to the use of habit-forming drugs.'

After hearing evidence the Committee considered its finding and made certain recommendations to the Council. The Council considered these recommendations at its meeting held in Pretoria on 5 January 1959 and it found that both Dr. J.F.S. and Dr. F.J.K. (1) have become unfit to purchase, acquire, keep, use, prescribe, order, supply or possess any habit-forming drug, (2) have been using a habit-forming drug for other than medicinal purposes and (3) have become addicted to the use of habit-forming drugs.

The Council resolved that Dr. J.F.S. and Dr. F.J.K. be prohibited in terms of Section 81 (2) (*b*) (ii) of Act 13 of 1928, as amended, for a period of 1 year, from purchasing, acquiring, keeping, using, prescribing, ordering, supplying or possessing any habit-forming drug.

They were advised of this decision and the prohibition referred to above came into effect as from 9 January 1959.

SOUTH AFRICAN SOCIETY OF MEDICAL WOMEN, JOHANNESBURG GROUP

EXTRACT FROM CHAIRWOMAN'S REPORT

Dr. E. M. D. Tomlinson reported that her Group has held office as the Executive of the South African Society of Medical Women and that the correspondence dealt with in this capacity has brought them an insight into the work of the Medical Women's International Association (MWIA), and the enormous part played by women in medicine throughout the world. They felt proud to be affiliated to the MWIA and also felt that they should encourage more South Africans to join their Society and so become members of the International Association.

In July 1958 the International Congress of Medical Women was held in London and Dr. Vera McPherson represented the Johannesburg Group of Medical Women. The theme of this Congress was 'The Adolescent' and the Executive of the Johannesburg Group decided to have a series of meetings to hear speakers on this subject. In January Dr. R. Gluckman, psychologist, delivered the inaugural lecture, in February Dr. Z. Wolfe, psychiatrist, gave a lecture on the psychiatrical approach, while later Mr. K. Lydall from the Municipal Social Welfare Department addressed the Group on the sociological aspects of the adolescent. The meetings were most interesting and from the discussions which ensued it was concluded that the talks had stimulated much thought.

Dr. Tomlinson reported that a cocktail party had been held in March 1958 in honour of Dr. Alice Cox, who had been awarded the honorary degree of Doctor of Laws by the University of the Witwatersrand. Dr. Cox is the first medical woman to receive an honorary degree from this University. The Executive of the Society recommended that both Dr. Cox and Dr. Pauline Podlashuk be made Honorary Members of the South African Society of Medical Women in recognition of their services in the field of medicine and to the community as a whole.

The Chairwoman further reported that early in 1958 the Natal members of the Society were sufficient in number to form a Group

of their own—the Natal Medical Women's Group—and the Johannesburg Group sent their congratulations to this new Group with the hope that they would flourish.

Dr. Tomlinson closed her report with an appeal to members of the profession to join the Society of Medical Women because through membership of this Society they would be affiliated to the MWIA and brought into contact with medical women throughout the world. Dr. Tomlinson stressed the importance of the MWIA and the place of women in the international world of medicine, saying that 'there is a special role for medical women, because they are women, in the social welfare of the world; a role which is not in conflict with the part that men play in medicine. Societies or associations of women doctors, are doing, and will do, much to help mankind'.

OFFICIAL ANNOUNCEMENT : AMPTELIKE AANKONDIGING

MEDICAL AID SOCIETIES REMOVED FROM THE LIST

The name of the following society has been removed from the list of approved medical aid societies as from 1 January 1959:

Reckitt & Colman Medical Aid Society (S.A.),
P.O. Box 1097, Cape Town.

L. M. Marchand
Associate Secretary

Medical House
Cape Town
29 January 1959

MEDIESE HULPVERENIGINGS VAN DIE LYS GESKRAP

Met aanvang 1 Januarie 1959 is die naam van die volgende hulpvereniging van die lys van goedgekeurde mediese hulpverenigings geskrap:

Reckitt & Colman Medical Aid Society (S.A.),
Posbus 1097, Kaapstad.

L. M. Marchand
Medesekretaris

Mediese Huis
Kaapstad
29 Januarie 1959

PASSING EVENTS : IN DIE VERBYGAAN

Dr. Ian R. Vermooten, psychiatrist, has commenced practice at 212 Medical Centre, 319 Pretorius Street, Pretoria. Telephone: Rooms 36337.

Dr. Ian R. Vermooten, psigiater, het te Mediese Sentrum 212, Pretoriusstraat 319, Pretoria, begin praktiseer. Telefoon: Spreekkamer 36337.

* * *

The South African Medical and Dental Council. The following is a full list of the elected members of the Executive Committee of the Council: Prof. S. F. Oosthuizen, Prof. H. W. Snyman, Dr. J. J. du Pré le Roux, Dr. R. V. Bird, Dr. J. Black, Prof. E. H. Cluver, Dr. R. Lance Impey, Miss C. A. Nothard, Dr. J. A. Stegmann, Mr. W. H. Rood, Dr. P. F. H. Wagner.

* * *

Research Forum, University of Cape Town. A meeting of Research Forum will be held on Tuesday 10 February at 12 noon in the large A-floor lecture theatre, Groote Schuur Hospital, Cape Town. Dr. C. S. Jones will speak on 'Clinical trials of a new barbiturate' and Dr. A. B. Bull will speak on 'Blood loss in infants and small children during surgery'. All interested are invited to attend.

* * *

A Symposium on Antibiotics will be held at the Nurses' Home, Victoria Hospital, Wynberg, Cape, on Tuesday 17 February at 8.15 p.m. Mr. J. A. Currie will speak on the use of antibiotics in urogenital conditions, Dr. W. F. Dickie-Clark on their use in ear, nose and throat disorders, and Dr. O. Haarburger on their use in eye conditions. All practitioners who are interested are welcome to attend this symposium.

* * *

Lede word herinner dat hulle die Sekretaris van die Mediese Vereniging van Suid-Afrika, Posbus 643, Kaapstad, sowel as die Registrateur van die Suid-Afrikaanse Mediese en Tandheelkundige Raad, Posbus 205, Pretoria, moet verwittig van enige adresverandering. Versuim hiervan beteken dat die *Tydskrif* nie afgelewer kan word nie. Dit het betrekking op lede wat oorsee gaan sowel as dié wat binne die Unie van adres verander.

* * *

The South African Society of Occupational Health are organizing a course of lectures, supported by the University of the Witwatersrand Graduate Association, on 'An introductory course in electrocardiography'. These lectures will be delivered by Dr. Leo Schamroth of Baragwanath Hospital. The first lecture will be held on Tuesday 3 March 1959 at 5.30 p.m. in the lecture theatre of the South African Institute for Medical Research, Hospital Hill, Johannesburg, and further lectures will be held weekly at the same time and place. The fee for the course is 3 gns. and attendance at the first lecture is imperative as it forms the basis for all subsequent lectures. Will all practitioners who intend to attend the course notify the Hon. Joint Secretaries by letter and remit their cheques to: Dr. B. Serebro (for Hon. Joint Secretaries), 129 Union Centre, 31 Pritchard Street, Johannesburg.

* * *

Commonwealth Medical Advisory Bureau, London. The Medical Director of the Commonwealth Medical Advisory Bureau has kindly supplied the Editor with a copy of the revised edition of the *Summary of Regulations for Postgraduate Diplomas and o Courses of Instruction in Postgraduate Medicine* which his bureau issues. Copies have also been sent to the Deans of the Faculties of Medicine at the Universities of Cape Town, Pretoria, Witwatersrand, and Natal, where they will be available for reference by interested doctors. This present issue of the Summary of Regulations contains chapters on anaesthetics, bacteriology, basic medical sciences, cardiology, chest diseases, child health, dermatology, E.N.T., entomology, environmental control, gynaecology, hospital appointments, industrial health, laryngology, medical registration, medicine, neurology, obstetrics, occupational health, ophthalmology orthopaedic surgery, otology, paediatrics, parasitology, pathology, physical medicine, psychiatry. public health, radiodiagnosis, radiotherapy—isotopes, surgery, tropical medicine and hygiene, tuberculosis, urology, and venereal diseases.

* * *

The Third International Congress of School and University Health will be held in Paris on 6-8 July 1959. The Congress has been organized by the French Association of School and University Health Services under the patronage of the French Ministry of Health and the International Associations of Universities and Educational and Vocational Information. The Congress will discuss and draw up the statutes of an International Union of School and University Health and Medical Services. The first day of the Congress will deal with 'Infectious diseases in school', the second day with 'School environment and child health', and the third day with 'Epilepsy in school'. Any practitioner wishing to present a paper must submit a résumé of not more than 500 words in English or French, in triplicate, and in MS. form for printing. Arrangements will be made for the projection of cinematograph or strip films, and a short description of the film, time for projection and type of sound track should be submitted beforehand on the required form. Supplementary information on registration, fees, accommodation, travel, etc. should be addressed to the Organizing Committee, Third International Congress of School and University Health, 13 rue du Four, Paris-6e, who will also supply those interested with the necessary forms for registration, etc.

N.B. *Cape Town Central Telephone Exchange.* Practitioners are reminded that as from 8 February most telephone numbers in the Cape Town central area on the 2- and 3- exchanges will be altered. The new Telephone Directory will be issued concurrently with this change-over and doctors are advised to inform their colleagues and patients of their new telephone numbers.

The *Journal* telephone number will be 3-5286 as from 9 February.

N.B. *Telefoonsentrale, Kaapstad-sentraal.* Praktisyns word daaraan herinner dat die meeste telefoonnommers in die sentrale gebied, Kaapstad, met 2- en 3- nommers, vanaf 8 Februarie verander sal word. Die nuwe Telefoongids sal gelyktydig met hierdie verandering verskyn en geneeshere word aangeraai om hul kollegas en pasiënte van hul nuwe nommers in kennis te stel.

Die telefoonnommer van die *Tydskrif* sal 3-5286 wees vanaf 9 Februarie.

NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

SIQUIL

Squibb Laboratories (Pty.) Limited, in announcing the introduction of Siquil (Squibb triflupromazine), supply the following information:

Description. Siquil is a psychic stabilizer for the treatment, of the highly agitated. Although a phenothiazine derivative it is more potent, faster acting and much safer than the older phenothiazines.

Action. Siquil appears to exert its full effect on the emotions and leave the intellect clear. In contrast to other phenothiazines, it places patients in the stable zone, free from jitters and lethargy. Because of its stabilizing effect on behaviour, Siquil is particularly useful in the management of psychomotor hyperactivity and overt hostility.

Indications for Use. Siquil is indicated in highly agitated, excited, senile, agitated psychotic and ambulatory schizophrenic patients and in elderly patients with organic brain disease. Patients in the manic phase of affective psychoses, aggressive and combative patients, highly agitated menopausal women, and patients with post-alcoholic tremors and delirium, are also suitable subjects for treatment with Siquil.

Ease in Handling. Siquil is much less prone to give rise to side-effects than chlorpromazine, promazine, prochlorperazine, mepazine and perphenazine. No jaundice or convulsions have been observed. Hyperthermia and skin eruptions are rare. Parkinson-like symptoms which have been associated with other phenothiazine therapies occur much less frequently with Siquil and are readily reversible with reduction or discontinuance of medication for 2 or 3 days.

Control of Nausea and Vomiting. Siquil possesses more potent anti-emetic properties than chlorpromazine. It often confers prompt relief after failure of standard anti-emetics and other phenothiazine drugs.

Potency. With recommended average dosage, Siquil has twice the potency, on a weight-for-weight basis, of chlorpromazine. As dosage increases (as may be necessary in severe cases) its potency may increase to 5 times that of chlorpromazine.

Dosage. For psychic stabilization: Usually the initial dosage is 25 mg. t.i.d. to be adjusted according to patient's response. Caution should be exercised in administering daily doses in excess of 300 mg.

Precautions. Although Siquil has produced remarkably few side-effects, it is recommended that the same precautions that apply to other phenothiazine derivatives be observed.

Contra-indications. Siquil is contra-indicated in comatose states caused by depression of the central nervous system by alcohol, barbituates or opiates.

PHARMACEUTICAL NEWS : FARMASEUTIESE NUUS

MERCK SHARP & DOHME INTERNATIONAL

Merck Sharp & Dohme International, Division of Merck & Co., Inc., USA, announce the establishment of its South African company Merck Sharp & Dohme (S.A.) (Pty.) Limited to conduct the interests and promotional activities of the company in South Africa. Plans are in progress to broaden the scope of the South African company to cover limited local manufacture of selected products. It is anticipated that this will be the first stage in a gradually expanding local manufacturing programme. The company has manufacturing facilities in many parts of the world, including Great Britain, Canada, Holland, Australia, Japan, the Philippine Islands, Mexico, Argentine and Brazil.

Development of these plans in South Africa is in recognition of the needs of the market in a rapidly growing economy. It is expected that the promotional company will occupy its new offices by about June 1959 in a building now under construction in Smal Street, Johannesburg.

Merck Sharp & Dohme products will continue to be distributed to the wholesale trade through the firm's presently established distributors: S.A. Druggists Limited Agency Division (Sharp & Dohme lines) and Mulphico Pharmaceuticals (Pty.) Ltd. (Merck lines) and further announcements concerning the South African Company will be made at a later date.

NEW AGENCY—PETERSEN LIMITED

Petersen Limited, Cape Town, Johannesburg, and Durban, announce their appointment as the sole distributors in the Union of South Africa for the pharmaceutical products manufactured by The Brookes Laboratories Ltd., England, as from 1 January 1959. Adequate stocks of the majority of the Crookes Laboratories' products are now available.

BOOK REVIEWS : BOEKRESENSIES

ADVANCES IN INTERNAL MEDICINE

Advances in Internal Medicine. Volume IX. Editors: William Dock, M.D. and I. Snapper, M.D. Pp. 311. Illustrations. $8.50. Chicago: Year Book Publishers, Inc. 1958.

1. *Metabolism of vitamin B12 in pernicious anaemia and other megaloblastic anaemias.* Estrin *et al.* The newer techniques of investigation are described and discussed—the measurement of B12 in the blood and the body tissues, and the determination of B12 by radioactive procedures. Megaloblastic anaemias may be associated with normal—even high—as well as with low blood values. The so-called P.A. of pregnancy is usually not due to B12 deficiency. (Professor Adams of Durban is not quoted.)

The role of B12 in cellular metabolism is discussed. It is as well to keep in mind the fact that anti-epileptic remedies may cause a megaloblastic anaemia, or may prevent medicinal B12 from acting effectively.

2. *Corticosteroids and infections.* Kass and Finland. Steroid therapy is capable of diminishing the inflammatory response to varied irritants. In this very anti-inflammatory action lies the danger to what may be regarded as the defence reaction to infection. With adequate antibiotic cover against the infecting agent there is no real problem (from this point of view) in the use of steroids in infections. It has been so used, deliberately, in tuberculosis, etc. But we do not always know the infecting agents, nor have we always an effective bacteriocidal antibiotic against them. Nor do we always know whether there is or is not a concomitant infection, e.g. in the paranasal sinuses or the kidneys for example—that is the big problem—how dangerous is it to use steroid therapy under these circumstances? We give steroids when the patient is dangerously ill and shocked—in spite of infections—with benefit and without the expected ill-effects, quite frequently. The available literature is discussed in this section.

3. *Primary and secondary hyperparathyroidism* — Nordin.

Everyone is agreed that the parathyroid hormone causes increased excretion of phosphate in the urine (though it must be mentioned that most preparations on the market are not always active). It is believed that there is also a so-called calcaemic action (i.e. a plasma Ca-raising effect) independent of its phosphaturic power. It is probable that blood Ca levels above or below 9-11 mg.% modify parathyroid activity. Interesting work from several centres on the effect of Ca infusions are reported and discussed. Howard reported that Ca infusions cause a smaller rise of in serum phosphate and a smaller fall in urine phosphate in patients with a parathyroid adenoma than in normal subjects.

Secondary hyperparathyroidism in vitamin D deficiency is discussed. So also is the difficult subject of this condition in glomerular failure—it is not always easy to recognize which came first.

4. *Hereditary defects in clotting mechanisms*—Ratnoff. Here is an up-to-date review of the work in the domain of blood clotting. All that remains easy of the older theories is the final stage in which fibrinogen is converted by thrombin to fibrin. What goes on in the preliminary behind-the-scene stages is complicated. A number of phenomena remain difficult to understand: haemophilics may have an upper-limit-of-normal clotting time; yet in the Hageman trait[1] patients with greatly prolonged clotting times stand repeated surgical operations with no more than normal bleeding.

5. *The etiology and pathogenesis of glomerulonephritis*—Schmidt and Rammelkamp. Here the role of the haemolytic streptococcus type 12, and to a lesser extent type 25, is discussed. A whole family may go down with nephritis from throat infections due to this streptococcus. I do not agree with the statement that 'final conclusions concerning the production of initial attacks of glomerulonephritis by agents other than streptococci must await further study'. Nephrotoxic renal disease is fully discussed.

6. *Pathophysiology of carcinoid tumours*—Spain.

7. *Some aspects of disordered renal tubular function*—Stanbury. This is an excellent article on a very difficult subject. It has recently been shown that aminoaciduria is not present at birth in cases of the Fanconi syndrome, but develops between the 4th and the 6th month. Why do cases progress to a severe degree of renal failure? It has been claimed that prolonged treatment with alkalis and vitamin D may result in amelioration or disappearance of the glycosuria and the aminoaciduria. Stanbury shows that the characteristic defects do occur in acquired renal disease—in adults with the nephrotic syndrome and in myelomatosis for instance. He points out that many of the features characteristic of the Fanconi syndrome can be produced by hypokalaemia. It has become apparent recently that hypokalaemia is frequent in this disease.

F.F.

1. Editorial (1959): S. Afr. Med. J., 33, 49.

CHEST SURGERY

An Introduction to Chest Surgery. By Geoffrey Flavell, F.R.C.S. (England), M.R.C.P. (London). Pp. xiv+354. 49 Figures. 30s. London: Oxford University Press. 1957.

This book is an excellent example of what it says it is: an introduction to chest surgery. It is a surprisingly complete guide in spite of its compact format and clear large print. The author writes in an easy style giving full reasons for every step in diagnosis and technique, and yet not cluttering up the text with unnecessary and finicking detail. The ingenious diagrams of the pulmonary anatomy, for instance, make it simple to follow the steps of pulmonary resection, from pneumonectomy to segmental resection. The author is a good teacher, being dogmatic and clear, and yet comprehensive enough to make his book rewarding even to the established surgeon.

The best feature of the book is the excellent series of X-rays, showing a wide variety of characteristic pulmonary, cardiac, oesophageal and diaphragmatic abnormalities, with a short history and description under each picture. They enable the student to follow case-histories of diagnostic and post-operative conditions in the most economic and most memorable manner.

The modern objection to eponyms in operations and syndromes is perhaps carried too far; the student should be told the names of surgeons or others responsible for important advances. For instance, in modern oesophageal surgery it is a serious omission never to have heard of the names of Ivor Lewis, Tanner, and Allison as originators of important concepts, and not to know of the important step forward made by such authors.

The various forms of congenital heart disease are fairly well described, but would have been easier to memorize if more diagrams had been included. Recent developments have been included including the use of hypothermia, and this has been described in fair detail, e.g. its use in the treatment of pulmonary stenosis and atrial septal defect.

It is a book that is recommended to the houseman or registrar to a thoracic surgical firm, as well as to candidates for higher surgical degrees. The text is easily read and retained, and the book is well printed and indexed.

L.F

RECTOSCOPY

Principles of Rectoscopy. By Karel Herfort and Zdeněk Mařatka. Pp. 254. 78 Colour Plates. 42s. Net. London: Constable and Company Ltd. 1958.

This is an unusual publication. This book is published in Prague, Czechoslavakia and the text is in 4 languages—Czech, Russian, German and English. There is a short section (about a dozen pages in each of the 4 languages) on the technique of proctosigmoidoscopy. There are 12 black-and-white diagrams and 78 colour plates. The colour plates are beautiful products of the printer's art, they were obtained by the artist combining the techniques of water-colour painting and colour photography. The subjects dealt with are the normal appearances found in sigmoidoscopy—haemorrhoids, fissures, ulcerative colitis, benign and malignant tumours of the rectum, and also a few more uncommon conditions.

This book follows in the tradition of one of the early monographs on the subjects, *Prokto-Sigmoskopie* by Prof. Hermann Strauss, of the Jüdische Krankenhaus, Berlin, who invented the sigmoidscope which bears his name. The first edition of Strauss's Monographs appeared in 1910, the second edition in 1930. The latter has a comprehensive text (96 pages) and 64 colour pictures of the more common sigmoidoscopic appearances. The text of the book under review is much poorer but the colour plates are larger and more elaborate. The more modern work, such as the technique of diagnostic exfoliative cytology, are not mentioned at all. As an atlas of procto-sigmoidoscopy it is, however, an eminently practical book, very well printed and produced.

L.M.

DYNAMICS OF CHARACTER STRUCTURE

Physical Dynamics of Character Structure. Bodily Form and Movement in Analytic Therapy. By Alexander Lowen, M.D. Pp. x+358. 18 Figures. $7.75. New York and London: Grune & Stratton, Inc. 1958.

Dr. Lowen starts his book with a review of psychoanalytical techniques, and one reads on expectantly, undeterred by the term 'bioenergy', hoping that he may reveal some interesting variations in the Freudian approach and that his emphasis on somatic factors may offer a fresh viewpoint. But soon we are lost in astounding theories, more suited to theosophy than psychology. We read that 'the actual amount of energy which can be held and focussed in the human brain is tremendous. In very healthy organisms it creates a glow about the head'. We wonder just how healthy glow-worms may be, with their energy focussed at their tail ends.

A little later we learn that the upper point of the 'energy swing' is in the region of the glabella, and we are told that a trained observer can 'evaluate the ego' by the expression shown in the eyes. It would seem then that the ego may be a remarkably changeable entity: imagine a trained observer attempting to track down Eddie Cantor's ego.

All this is very uplifting; indeed we are told that bioenergetic energy is 'antigravitational'. Certainly Dr. Lowen cannot be accused of being earthbound when he theorizes about bioenergy. However, he gives the soma its due: he believes that certain character traits are reflected in certain types of muscle contractions. Take the 'hysterical character structure'—'the back is rigid and unbending. The neck is tight and head held erect. The pelvis is more or less retracted and is tightly held. More important, the front of the body is hard'. But not so hard as all this is to swallow.

Masochistic characters on the other hand have severe muscle tensions in the back of the neck and in the lower lumbar region: they are muscle-bound and 'this accounts for their ataxic behaviour in movement and expression'.

After reading this book one is left in some doubt whether bioenergy has more to offer to the judo expert or to the phrenologist—it certainly has nothing whatsoever to interest the serious psychologist.

J.M.MacG.

DISEASES OF THE NERVOUS SYSTEM

Diseases of the Nervous System. Described for Practitioners and Students. 9th Edition. By Sir Francis Walshe, M.D., D.Sc., F.R.S. With chapters on *The Neurological Complications of Liver Disease and Hepatolenticular Degeneration.* By J. M. Walshe, M.R.C.P. Pp. xvi+373. 60 Figures. 30s. net + 2s. 6d. Postage Abroad. Edinburgh and London: E. & S. Livingstone Ltd. 1958.

Once again Sir Francis Walshe has produced a further edition of his well-known book. This time he has been joined by his son, Dr. J. M. Walshe of Cambridge University, who has contributed two chapters which are new to this book. These chapters deal with the neurological complications of liver and a brief account of hepatolenticular degeneration.

Sir Francis has also revised the remaining chapters of his book and brought them up to date. The sections mainly affected are the vascular disorders of the brain, epilepsy and neurological manifestations of vitamin B12 deficiency. In addition he has considerably revised the section dealing with localizing diagnosis consequent upon recent knowledge gained concerning the control of movement and tone and the anatomy of cutaneous sensibility. A brief summary of the so-called 'activating' and 'integrating' systems in the brain stem has been added.

We are all glad to have this new edition.

S.W.G.C.

CORRESPONDENCE : BRIEWERUBRIEK

OBSERVATIONS ON PARENTERAL MAGNESIUM SULPHATE THERAPY IN CORONARY HEART DISEASE

To the Editor: I have read with great interest of Dr. B. Malkiel-Shapiro's successes[1] with epsom salt in the treatment of angina pectoris, arteriosclerosis, atheroma and thrombosis of the coronary vessels.

It would be interesting to know what made Dr. Shapiro start this line of treatment. May I remind Dr. Shapiro that injections of magnesium sulphate were well known for their narcotic and sedative effects in Germany (Heubner's *Taumellaehmung*),[2] and in the Scandinavian countries[3] in 1930. The effect was often compared with curare. However, it was considered unsatisfactory because of the prolonged paralysis of the voluntary muscles.

Into a different category fall Dr. Shapiro's injections of epsom salt—no doubt a painful procedure. It is quite possible that a patient, after receiving an injection of 0·5 or 2 ml. of a 50% solution of magnesium sulphate in his buttocks, would be unable to settle on this part of his body for a considerable period and that rubbing and massaging the traumatized part would provide him with a reasonable amount of physical exercise.

Recent research has clearly shown that 'men in physically active jobs have a lower incidence of coronary heart disease . . . than men in physically inactive jobs'.[4]

In conclusion, may I mention that Dr. Malkiel-Shapiro's figures and statistics are anything but convincing.

Peter H. G. Saling

40 1st Avenue West
Parktown North
Johannesburg
23 January 1959

1. Malkiel-Shapiro, B. (1958): S. Afr. Med. J., 32, 1211.
2. Heubner, W. (1930): *Lectures on Pharmacology.* Berlin: Springer.
3. Poulsson, E. (1930): *Lehrbuch der Pharmakologie.* Leipsig and Oslo: Hirzel.
4. Morris, J. N. and Crawford, M. P. (1958): Brit. Med. J., 2, 1485.

SUGGESTIONS FOR THE SOUTH AFRICAN MEDICAL JOURNAL

To the Editor: Now that our *Journal* has a new Editor, perhaps some of the remarks of your correspondent 'M.M.' might be taken as a suggestion to include in the *Journal* from time to time, material under new headings. In our expanding country with its multiple racial groups, social and preventive medicine should be a most important subject. Might there be columns in the *Journal* headed 'Problems of Social Medicine in Southern Africa'?

I could suggest items of interest to myself. It was stated in the *Lancet* lately that dried skim-milk is freely available in Jamaica, donated by UNESCO. Is it possible that this could become available to needy children here? What are the views of colleagues on health education in child care for the Bantu, e.g. by interpolations during the Xhosa programme on the radio, or by posters in public places?

Colleagues might find this column on social medicine a forum for discussion on other problems, e.g. could there be made available in rural areas public ambulances, or even a mobile laboratory for emergency work, equipped with transfusion apparatus? What are the possibilities of extending sick-fund benefits to people of lower incomes not employed in registrable work? Could existing industrial sick funds have a central coordinating body, thus creating a larger panel of doctors for members? And, on a larger scale, could some form of medical aid be furnished for adult Africans in regular employment (other than the Mines) from monies in the Workmen's Compensation and Unemployment Funds?

The Editor might find too that some legislative and other items now published in 'Passing Events' would suit this proposed series. Perhaps these suggestions might find ventilation in the *Journal.*

G.P.

Cape Town
22 January 1959

NAUDÉ APPEAL FUND

To the Editor: It has been pointed out to us by several members of the profession that they are unable to understand how it was possible for Dr. Naudé, who won his case in the Appellate Division of the Supreme Court with costs to the amount of £800, to still be out of pocket to the extent of £630.

In any form of trial action, as you probably know, there are two classes of costs, i.e. between party and party (which are generally paid by the loser), and between attorney and client. Dr. Naudé lost his case in the Supreme Court in Grahamstown and this cost him several hundred pounds. It was only when he appealed to the Appellate Division of the Supreme Court of South Africa that judgment was given in his favour with costs. His attorney then endeavoured, in the bill of costs to the Taxing Officer, to include most of the expenses he had incurred in the Supreme Court at Grahamstown and also several consultation fees, e.g. £79 15s. 0d. for Professor McKerron of Rhodes University. The Taxing Officer 'disallowed' most of these fees—disallowed meaning that the Taxing Officer refused to allow that these fees be paid by the losing party in the final action.

It was felt, at one stage, that Dr. Naudé should ask for a reassessment by the Taxing Officer, but it is well known that this again would have cost him a considerable amount with the possibility of not gaining anything at all and, since he knew that he had the backing of his colleagues, he felt that the discrepancy of £630 could easily be raised.

A full memorandum of the attorney/client fees and disbursements payable by Dr. W. J. Naudé are in our possession and have been scrutinized by several members of high standing in the Medical Association without query. A copy could be forwarded to anyone who would like to peruse it.

J. H. Hofmeyr
Hon. Secretary, Transkei Branch (M.A.S.A.)

P.O. Box 318
Umtata
19 January 1959